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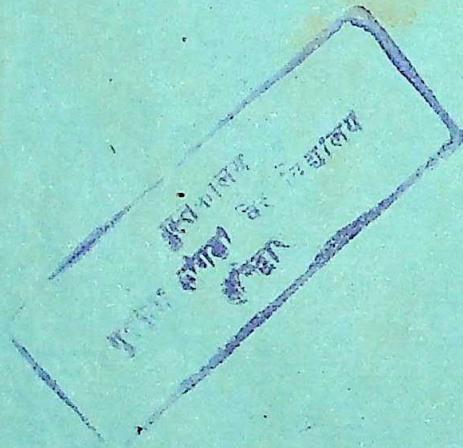
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पुस्तक संख्या

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पुस्तक पर किसी प्रकार का निशान लगाना
वर्जित है। कृपया १५ दिन से अधिक समय
तक पुस्तक अपने पास न रखें।



"नारदोऽस्मि वायुं कालार्थम्—यज्ञं द्रवद्वा पूति"—(Charaka.)

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or the Hindu System of Medicine

HON. EDITOR-IN-CHIEF:

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THE JOURNAL OF AYURVEDA

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Comparative Medicine.

In a systematic enquiry into the state of medical science among any ancient race, it may be pointed out that the comparative study of the contemporary science of medicine in different countries often furnishes us with valuable materials as regards the state of medicine in a country. And this method has been recommended for cultivation as one of the sources of informations for a proper estimate and real value of the knowledge contained in the literature of the period. In India, the terse language of the *sutras* in the Sanskrit texts had long become obscure to the later generations who required the extraneous help of annotations, glosses and commentaries, for the proper comprehension of the sense of the ancient authors. Often such help proved insufficient, inaccurate and misleading, though, in the majority of cases, these *tikas* were the only key left to us for getting an insight into medical practices which had become obsolete or unintelligible. But when the knowledge is contrasted to and compared with the knowledge possessed by the then nations of the world, such obscurity at once vanishes away. We know with what brilliant results comparative mythology and comparative philology had been studied in the last century, and we may express the hope that such a study by scholars in the domain of medical science will lead to interesting discoveries.

The difficulties surmounted by savants to raise comparative philology and comparative mythology to the dignity of science were very great indeed. It required the life-long labour of many renowned philologists and mythologists of many nations. With the bi-lingual inscriptions,—Egyptian and Greek,—on the Rosetta stone discovered in 1799, the interpretation of the Egyptian hieroglyphics became possible by Champollion, and gradually the entire maze of alphabetic and syllabic signs, determinatives and ideograms, was deciphered by Rawlinson, Hinks and Oppert ; and this decipherment was rightly regarded to be one of the greatest achievements of the nineteenth century. In deciphering cuneiform writings, the Ancient Persian and Babylo-Assyrian systems had to be learned, nay, the Ancient Persian itself had to be deciphered. What was worse, there was no derivative language to serve as an auxiliary, like the Coptic, a daughter-language of the Old Egyptian, as in the case of the hieroglyphics. The tri-lingual cuneiform inscriptions of Darius and Xerxes were discovered to be in the Ancient Persian, Susian and Babylo-Assyrian. Grotefend thus became able to discover the Indo-Germanic idiom of the Ancient Persian Achaemenid kings. Burnouf, Lassen and Rawlinson then completely deciphered the Ancient Persian which served as a key to Babylo-Assyrian cuneiform writings of by-gone ages.

To Sir William Jones we owe the identification of Sandrokoptos of the Greeks with Chandra Gupta, the Maurya monarch, whose date, and the date of the conquest of Alexander the Great, served as land-marks in the study of Ancient history of the Hindus. With the help of Vedic references illucidated by the comparative science of language, Buddhistic records, Singalese versions, epigraphical and numismatic discoveries in the finds of coins and inscriptions on stone and copper-plates, native chronicles and notices of Chinese, Greek and other foreign writers, contemporary literature and accounts of contemporary

events, and Chinese and Tibetan records, it became possible to build up the history of Indian civilization. The inscriptions of Asoka on pillars and rocks had remained unintelligible until James Prinsep deciphered these inscriptions, discovered the Pali language, and thus illuminated the Buddhist history and antiquities.

Burnouf traced the inter-relation of the Zend and the Vedic Sanskrit, and with the help of his Comparative Grammar, deciphered and explained the Zend language and scripture. The German scholars Bopp, Grimm and Humboldt detected the connection among the Indo-European languages,—Sanskrit, Zend, Latin, Slav, Teuton and Celtic,—the offshoots of the same original stock, and thus laid the foundation of the Science of Language, on which an embellished edifice had been built up by many scholars, a notable name to mention is that of Max Muller who not only returned us our Vedas, but with the collaboration of distinguished scholars supplied us also with faithful translations of Sanskrit, Chinese, Zend, Pahlavi, Pali and Arabic texts.

In a similar way, the unity of all religious beliefs had been traced by the study of Comparative Mythology and Religion.

For the illucidation and study of the medical science of the Ancient Hindus, we are concerned more or less with all these fields of research : the Egyptian medical Papyri—the Eber's papyrus, Papyrus Brugsch or Berlin Medical Papyrus, British Museum Medical Papyrus and other minor papyri,—contain accounts of medical practice which was contemporaneous with the Vedic medicine ; the Buddhistic medical literature in Pali and Sanskrit, the Mahavagga, Mahavamsa and the Jataka stories, with the extensive Greek literature of the Hippocratic School and its Roman successors ; Vedic and Brahmanic literature with the Zend of the Parsis ; and the mediæval literature with Arabic and Persian, in which languages the

Sanskrit books were translated. In the 'Land of Snow,' we find medical books which are translations of Sanskrit works on medicine, the originals of which had long been lost to us. The medical knowledge treasured up in the Tibetan Tangyur and Kangyur still await illucidation, and here is a vast field for research by the Indologists in the domain of comparative medicine. The French, German and Russian scholars are utilising the materials. In 1835 Csoma de Koros contributed an 'Analysis of a Tibetan Medical Work' in the Journal of the Asiatic society of Bengal. In 1846 Rosenbaum-Sprengel, and in 1850, 1860 and 1866 Puccinotti discussed about 'Medicine in Tibet'. In 1867 Wise in his 'Review of the History of Medicine' supplied us with a short account of Tibetan medicine. Other scholars contributed their quota. In 1900 a German medico, H. Laufer offered as his thesis for the M. D. Examination, 'The Science of Medicine in Tibet' or "Beitrage zur Kinectnis der Tibetschen Medicin", Berlin. Cordier's contributions are well-known. But our knowlege is still fragmentary. We possess reliable evidence that Hindu medical works were translated in Tamil and Singalese. Java was a Hindu colony and possibly we may find remnants of Hindu medical science there in more or less mutilated form. The accounts of medical knowledge in Burma and Ceylon evince a striking similarity to the medical system of the Ancient Hindus; and therefore those accounts should be carefully enquired into and collated. All countries near and around India would furnish us with valuable contributions towards a scholarlike knowledge of this important science.

In the study of History of Indian Medicine we laid stress on the necessity of our graduates in médecine for a knowledge of the classical languages, especially Sānskrit, Greek and Latin. We would now request our friends, the Ayurvedic physicians, to acquire some knowledge of one at least of the modern tongues, e.g.,

English, French and German. This will give them breadth of outlook among scholars of the world. It would be then easier for them to undertake research according to the comparative method,—a method which when utilised will lead to results which will be simply astonishing,—results, which when subjected to the critical and scientific methods of modern research, will yield a harvest of scientific findings undreamt of by the workers themselves. The task is certainly not an easy one ; it will take years of study and application, and the co-operation of a host of scientific workers. The discoveries that we shall be able to make, in this field of research,—this newly-opened mine of scientific enquiry,—would not be inferior, in novelty or importance, to the brilliant discoveries made by men in any age or climate.

Apart from the systematic enquiry into the medical literature of the world, we should try to collect folk-medicine as it exists in different countries. The immunity of the dairy women to the attack of Small-pox was known to many physicians, but it required a Jenner to test the truth of such a statement by experiments. Popular impressions and beliefs relating to cure of diseases are worthy of examination, and science advances by bringing into view facts previously unknown. A priest or a butcher was certainly not a good anatomist; but there was no doubt that the origin of Human and Comparative Anatomy could be traced to their work. Alchemical experiments did not secure the philosopher's stone which would turn all base metals into gold, but to the alchemists we owe the science of Chemistry which is, undoubtedly, more precious than what was the object of their search. Travellers who gathered knowledge of plants were herbalists, but the science of Botany had its origin in the rude attempts of such men at classification and description of the vegetable kingdom. In a similar way we may collect facts about medical practice in different lands. We may be fortunate in detecting resemblances

between such facts or similarity which may exist between apparently dissimilar systems. We may trace unity in the apparently anomalous and multiple systems of the healing art. When our survey of the different systems is completed, the so-called empirical facts should be brought into relation with some general law, and our enquiry would then be entitled to be considered as science. We may find out some order or law in the multiplicity of the practices of the art of medical science, though such practices may be right or wrong. Then we should attempt at classification: we may reduce the systems into groups and sub-groups, families and sub-families. Such a study will bring before us many curious and obsolete facts of medical science, facts which are unimportant when judged by themselves, but which, when studied in reference to important medical theories, would prove highly useful adjuncts to our study of the progress of science. Geologists have utilised fossils to identify strata, to arrange them in the order of their evolution, and to divide them into larger groups. We shall try to give a summary of the results achieved by scholars by the comparative study of medical science another time.

The comparative method recognises the evolution of medicine as a science from empirical knowledge and folk-medicine, but is not silent concerning the evolution of individual system of medical practice. The comparative method is the one along which we particularly wish to direct our thoughts for the present. The outlook is far wider and embraces the whole range of medical education. In the study of Hindu medicine, it adopts the point of view that the Indian system is not a solitary system by itself, but shares with the other systems the basic principles of all knowledge common to all methods of treatment in the world. The recent discovery at Boghas Koyi in Cappadocia of the names of Nasatyas and other Vedic gods in cuneiform character, and the occurrence of the name Naunghaitya in the Zend Avesta clearly direct us

to search for the medical knowledge as taught by the celestial Asvins, not solely in India, but also in Persia and Mesopotamia.

We must, however, be careful not to indulge in too hasty comparisons. Caution comes with knowledge, and we must proceed cautiously when dealing with our facts. But we must refrain from making too narrow distinctions in our comparison of the facts, and we should avoid uncritical observation of evidence. It is a work of much interest to take stock of the relative extent and value of our investigations.

Now it may be asked "What is the use of such a study?" Our answer to such enquirers would be what Professor Faraday answered when he was questioned by a lady, the use of a very simple experiment in magneto-electricity, "Madam, will you tell me the use of a newborn child?"

We acquire knowledge for its own sake. Diffusion of truth for the benefit of mankind should be our motto. We must cultivate the habit of accuracy and exactness in matters of facts. We must be ready to reject a theory which might have been rightly entertained with the strongest fidelity, when we find it inconsistent with our facts. Above all, we must have imagination, but our imagination must be under our control.

But we must not have our eyes only on the past achievements of our forefathers. Let us look forward for a moment into the future, into the visions that are screened off from our sight. In our work of regeneration of the ancient system, we are being anxiously watched by our friends in other lands. Our methods are being studied by critics, friendly or unfriendly, and what is more, our countrymen are eagerly waiting to learn the success of our undertaking. We have now a Journal devoted exclusively to the study of the Ayurveda and allied sciences; it welcomes the co-operation of the learned who are interested

in this branch of Oriental learning, and who are willing to encourage others in their work of regeneration. An increase in the number of subscribers will strengthen its financial position which will enable it to expand its field of operations in many directions, e. g., publication of original works on medicine, which would serve as reference books to busy practitioners, and as text books for students. The want of suitable text-books for students is felt by all, especially as there is every likelihood of Ayurvedic colleges being established by the Government, Corporation and private generosity at no distant date. There is no doubt that we enjoy better opportunities now than scholars did before. Books and MSS. are easily available. Important Sanskrit books are being edited and translated. We are exceptionally fortunate in having research literature on many subjects in the libraries of Calcutta,—the Library of the Asiatic Society of Bengal, the Imperial Library, and the Library of the University of Calcutta; though we must admit that the literature on History of Medicine is poorly represented in all these libraries.

G. M.

AN EXPLANATION.

I regret very much that owing to an accidental inadvertance a correspondence was published in the "Journal of Ayurveda" the month of November over the signature of Dr. K. N. Sahaya. The correspondence was originally handed over to me by the Honorary Chief Editor for publication, then he went away on a mofussil call and asked me therefrom to stop its publication. Unfortunately I was just at that time called away outside and on return found that the Press people had finished with the printing of that page. I sincerely hope and trust that both Dr. Sahay and the General Secretary, Ayurveda Mahamandal, Madras, will accept my explanation and apology for what was an over-sight, pure and simple.

A. C. BISHARAD,
Managing Editor.

J. A.

Original Articles.

A STUDY OF THE NADI-CHAKRA SYSTEM IN AYURVEDIC WORKS

BY

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I. Introduction. Although the study of the general *Nadi-chakra* system (the nervous system) is not essential for a student of sphygmology, still it has found a place, however small, in most of the old treatises on sphygmology. Extensive references, nay, fairly detailed accounts on the nervous system are available in the Upanishads, Samhitas (Smritis), Puranas and Tantric works. The place of the general *Nadi-chakra* and *Nadi* systems in treatises on sphygmology can be best accounted for if we assume that the two subjects evolved together side by side in the hands of the same sages of by-gone days.

The study of the general *Nadi-chakra* and *Nadi* systems of the ancient sages will undoubtedly be of little practical utility in these days of high scientific developments ; but its study is of some importance at least from a historical and philological point of view. The various terms used in the general *Nadi-chakra* system can be well utilised in connection with the modern human anatomy in oriental languages as synonyms. It seems to be far more reasonable to stick to the nomenclature of our learned forefathers if possible than to coin new terms—a tendency very prevalent now-a-days.

II. Literature. The literature on both the *Nadi-chakra* and general *Nadi* systems as we find in various Sanskrit works may be considered under the following headings : (I) The works on sphygmology which deal with the general *Nadi* system are here enumerated with abbreviations in an alphabetical order. The treatises have already been mentioned in my last paper.

- (1) *Nadi-bijnana* of Kanáda (Bombay Edition) [ना. वि.] (II. 4)*
- (2) *Nadi-bijnana* of Kanáda (edited by Gangadhara Kaviraja). [ना. वि. ग.] (II. 4)

* These refer to the numbers in the literature on the Ayurvedic sphygmology (last paper).

- (3) Nadi-bijnana. [ना. वि. २.] (II. 5)
 (4) Nadibijnaniya (Nadi-chakra). [ना. वि. ३.] (II. 6)
 (5) Nadi-chakrabidhi. [ना. च.] a ms. of about 60 slokas, deposited in the Govt. Oriental Ms. Library, Madras. It is available for study.
 (The name has been omitted in the literature.)

- (6) Nadi-jnana (in Bengalee) [না. জ্ঞ.]
 (7) Nadi-lakshana : [না. ল.]
 (8) Nadi-lakshana. [না. ল. ২.]
 (9) Nadi-nidan (in Gadasanjibani) [না. নি. গ.] I. 3)
 (10) Nadi-nidan (in Vaidyasastra) [না. নি. বি.] (I. 4)
 (11) Nadi-parijnana (Atreya) [না. প. আ.] (II. 17)
 (12) Nadi-parijnanabidhi [না. প. বি.] (II. 18)
 (13) Nadi-pariksha [না. প. ১.] (II. 26)
 (14) Nadi-pariksha [না. প. ২.] (II. 27)
 (15) Nadi-pariksha [না. প. ৩.] (II. 29)
 (16) Nadi-pariksha. [না. প. ৪.]
 (17) Nadipariksha-nidana. [না. প. নি.] (II. 34)
 (18) Nadiprabodha (by Kripala Misra). [না. প্ৰ.] (II. 36)
 (19) Nadiprakasa (by Sankara Sena). [না. প্ৰ. স.] (II. 38)
 (20) Nadisastra Samgraha. [না. শ.] (II. 46)
 (21) Nadyutpatti. [না. ত.] (II. 47)
 (22) Nadyutpattisthana (in Vaidya-Sastra). [না. ত. স্থা.]

(II). The following Upanishads may be mentioned as containing references to or short accounts of the *Nadi* system : (1) Kathopanishad. (2) Prasnopanishad. (3) Brahmopanishad. (4) Sarbasaropanishad. (5) Amritanadopanishad. (6) Dhyanabindupanishad. (7) Garbhopanishad. (8) Barahopanishad. (9) Chhandogyopanishad. (10) Maitrey-upanishad. (11) Annapurnopanishad. (12) Adwayatarakopanishad. (13) Ekaksharopanishad. (14) Mandalabrahmanopanishad. (15) Kshurikopanishad. (16) Yogasikhopanishad. (17) Taittiriopanishad. (18) Yogatatttopanishad. (19) Bhabanopanishad. (20) Jabaladarsanopanishad. (21) Yogakundalyupanishad. (22) Sandilyopanishad. (23) Narayanopanishad. (24) Trisikhibrabhanopanishad. (25) Yogachuramanyupanishad. (26) Brihadaranyakopanishad.

III. The following Samhitas (Smritis) have some accounts on the *Nadi* system. (1) Yagnabalkya Samhita and (2) Vishnu Samhita.

IV. It is very difficult to ascertain how much material is available in the Pauranika literature. (1) Padmapurana and (2) Kalikapurana deal briefly with nerve plexuses.

V. There are so many works on *Tantras*, that it is a very difficult job to unveil them for the materials of our study. Further, it is important to note that the same facts are very often repeated in the various works. The following works have been consulted :

- (1). *Tatvachintamani*. (2) *Tantrasara*. (3) *Niruttara tantra*.
- (4) *Pranatoshini*. (5) *Brahmayamal*. (6) *Yogaswarodaya*.
- (7) *Yogarnaba*. (8) *Rudrayamal*. (9) *Sivasamhita*.
- (10) *Shatchakrakrama*. (11) *Saradatilaka*.

III. GENERAL NOTES. An attempt at a critical study of the *Nadichakras* was made by Dr. A. T. Roy of Hazaribagh and published in the *Calcutta Medical Journal* in March, 1918. The present writer differs from him in some details only.

The numerous references to the *Nadichakras* in Upanishads, Tantras and Puranas with short descriptive notes appended to them lead us to believe that the *Nadichakras* are nerve plexuses formed in connection with the spinal and sympathetic nerves. The *Nadichakras* have been thus enumerated in *Yogakundalyupanishad* :—

षट्चक्राणि परिज्ञात्वा प्रविशेत् सुखमण्डलम् ।
 मूलाधारं स्वाधिष्ठानं मणिपूरं द्वतीयकम् ॥
 अनाहतं विशुद्धं आज्ञाचक्रं च पठकम् ।
 आधारं गुदमित्युक्तं स्वाधिष्ठानं तु लैङ्घ्यकम् ॥
 मणिपूरं नाभिदेशं हृदयस्थमनाहतं ।
 विशुद्धं कण्ठमूले च आज्ञाचक्रं च मस्तके ॥

The *Nadichakras* are six in number, to which is added a seventh structure, the *Sahasrara* or *Sahasradala-padma*, here referred to as *Sukhasthanam*. The *Nadichakras* are frequently named *padmas* (lotuses) with a certain number of *dalas* (petals or lobes). It may be reasonably assumed that each *Nadichakra* or *padma* consists of two large nerve-plexuses of two sides taken together with the intervening portion of the spinal column. The portion of the spinal column or its central surface between the origin of the nerve-trunks is to be taken as the body (or torus) of the *padma* (lotus); the large nerve-trunks after their origin from the sides of the vertebral column (dividing and uniting with one another to form the plexus) may be taken to form the margins of the lobes (lobe-like spaces) or petals by their union with one another. The different number assigned to each *Nadichakra* cannot be reasonably assumed to be imaginary and must have been found out and noted by the ancient sages. It will be found

later on that the spaces formed by the union of the nerve trunks in connection with these plexuses correspond to the number referred to the different *padmas*. It is thus highly improbable that the smaller nerve-plexuses formed by the fine nervetwigs from the spinal and sympathetic nerves are meant by these *chakras*. The fine plexuses consisting of numerous interlacing fibres and forming close and irregular networks cannot be taken for these *padmas* with a definite number of lobes or petals attached to them. It is nowhere distinctly mentioned whether the *chakras* are single or paired structures, but the comparison of these *chakras* with the nerve-plexuses to be undertaken below will definitely show that they were taken as median structures. But their paired condition was undoubtedly observed by some authors at least. Thus we have the following passage in a treatise on sphygmology (Nadi-sastra-samgraha of Vaidyasastra) :—

जन्तुनां वामभागे च शक्तिचक्रच्च तिष्ठति ।

दक्षिणे विष्णुचक्रच्च नाडौचक्रहयं स्थितम् ॥

In animals, the *Saktichakra* lies on the left side and the *Vishnuchakra* lies on the right side. This passage evidently makes the *chakras* paired, but it cannot be reconciled with the views held in the Upanishads and Tantras.

IV. DESCRIPTION OF THE *Nadichakras*. The seven *chakras* or *padmas* may now be described.

(a) *Sahasrar*, or *Sahasradalapadma*. This structure has been described in several treatises along with the other six *Chakras*. The best elucidative notes are found in *Sivasamhita* and *Shatchakranirupana*.

(1) शिरोवस्थिताधोमुखसहस्रदलकमनम् ।

Shabdakalpadruma.

(2) अत (आज्ञाचक्रस्य) उर्द्धं तालुमूले सहस्रारं सुशोभन् ।

अस्ति यत् सुषुम्नाया मूलं सविवरं स्थितम् ॥

तालुमूले सुषुम्नाया अधो वक्रात् प्रवर्तते ।

तालुमूले च यत् पद्मं सहस्रारं पुरोहितम् ।

तत्कण्ठे योनिरेकास्ति पञ्चमाभिमुखौ मता ॥

तथा मध्ये सुषुम्नाया मूलं सविवरं स्थितम् ।

ब्रह्मरन्ध्रं तदेवोक्तमामूलाधारपङ्कजम् ॥

तद्रन्धे तु तच्छक्तिः सुषुम्नाकुण्डलो सदा ।
सुषुम्नायां शक्तिश्चिता स्थन्मभवन्नभे ॥

* * *

पुरा यदोक्ता या योनिः सहस्रारसरोरुहे ।
तदधो वर्ज्ञते चन्द्रस्त्रङ्गानं क्रियते बुधैः ॥
शिरः कपालविवरे ष्यायेद् दुर्घमहोदधिम् ।
तत्र स्थित्वा सहस्रारे पद्मे चन्द्रं विचिन्तयेत् ॥
शिरः कपालविवरे द्विष्टकलया युतः ।
पौयूषभानुं हंसास्यं भावयेत्तं निरञ्जनम् ॥

Shiva-samhita.

- (3) तद्रुद्धं शङ्खिन्या निवसति शिखरे शून्यदेशे प्रकाशं,
विसर्गाधः पद्मं दशशतदलं पूर्णपूर्णेन्दुशुभ्रम् ॥
अधोवक्रं कान्तं तरुणरविकलाकान्तकिञ्चल्पुञ्जः,
ललाठाद्यैर्वर्णैः प्रविज्ञसिततनुं केवलानन्दरूपं ॥
समासते तत्रान्तः शशपरिरहितः शुद्धसम्पूर्णचन्द्रः,
स्फुरतज्योतस्नाजालः परमरसचयस्त्रिग्रधसन्तानहासः ।
तिकोणं तस्यान्तः स्फुरति च सततं बिस्फुटाकाररूपम्,
तदन्तः सुन्यन्तः सकलसुरगुरुं चिन्तयेच्चातिगुह्यम् ॥
अत्रान्ते शिशुसूर्यं सोदरकला चन्द्रस्य सा षोडशी,
शुद्धा नौरजस्त्रमतन्तुशतधाभागैकरूपा परा ।
विद्युदाभ समान कोमलतनुर्नित्योदिताधोमुखी,
पूर्णानन्द परम्परातिविगलत् पौयूषधाराधरा ॥
निर्बाणस्त्रकला परात्परतरा सास्ते तदन्तर्गता,
केशाग्रस्य सहस्रधा विभजितस्यैकांशरूपासतौ ।
भूतानाभधिदैवतं भगवतौ नित्यप्रबोधोदया
चन्द्राद्वं समानभङ्गरवती सर्वार्कतुत्यप्रभा ॥

(Shatchakranirupanam).

- (4) सहस्रदलसंख्यात् ब्रह्मरन्धे महापंथि ।

Yogachuramanyupanishad.

- (1) The *Sahasrara*, consisting of thousand lobes, is placed above the *Ajnachakra* which is at the base of the palate ; it occupies the space above the *Sankhini* inside the skull.

(2) The *Chandrasthana* or *Chandramandalā* is described differently in two treatises :

(i) In *Sivasamhita*, it is said to be placed beneath the *yoni* (a space), which is situated inside the *Sahasrara* and is directed backwards. The hollow root of *Sushumna* is placed in the *yoni*. The canal inside the *Sushumna* is known as *Brahmarandhra*.

(ii) In *Shatchakra-nirupana*, it is placed inside the *Sahasrara*; beneath it lies a triangular structure [like flashes of lightning in colour (?)] ; and beneath the triangular structure is a space.

(3) In connection with the *Sahasrara*, and placed in the cranial cavity (*sirah-kapala-bibara*) is a structure, known as *Hamsa* or *Amā*: It consists of sixteen lobes, coloured like the morning sun, having the thickness of $\frac{1}{10}$ part of culm of lotus. Inside the *Amā*, is a structure named *Nirvana*, measuring $\frac{1}{100}$ part of a hair, shaped like a crescent, and the various parts of which are arranged (folded) one after another (*paratparatara*).

In interpreting the above descriptions in the light of the modern human anatomy, we find that the *Sahasrara* is to be considered as the cerebrum. The name itself indicates the numerous convolutions on the surface of the cerebral hemispheres. The *Sankhini* is the *medulla oblongata*; this is probably referred to as the "root of *Sushumna*" in some treatises. The *yoni* undoubtedly refers to the third ventricle or more reasonably the third and the two lateral ventricles combined, for in a rough dissection or handling the delicate partitions between them are ruptured. The *brahmarandhra* is the central canal of the spinal cord and has been described as continuous with the cavity of the "root of *Sushumna*", viz., the fourth ventricle.

The *chandramandal*, according to *Sivasamhita*, consists of the basal ganglia of prosencephalon, viz., the *thalamus*, *corpus striatum* and several other subsidiary gray matters taken together; but if we follow the descriptions in the other treatise, it can be made identical with *corpus callosum*. The triangular structure beneath the *chandramandal* may be the *fornix*.

Lastly, the structure named *Hamsa* or *Amā* is probably identical with the cerebellum. The sixteen *kalas* refer to the sixteen lobes of the cerebellum. According to the modern anatomists, these are thus distributed : four lobes in the upper surface of the cerebellum, these subdivisions being continuous on the vermis and the two hemispheres ; four lobes in the lower surface of the vermis, and eight lobes in the

lower surface of the two hemispheres. The laminated structure seems to have been recognized, as understood from the account given in *Shatchakra-nirupana*. The *Nirbaka* seems to be the *dentate nucleus*, the isolated grey matter inside the cerebellum.

(b). *Ajnachakra* or *Ajnapadma*. It is considered as the sixth *Chakra* in the list.

(1) आज्ञानाम भूवोर्मधे द्विदलं चक्रमुत्तमं

Yogasikhopanisad.

(2) आज्ञापद्मं भूवोर्मधे हक्षोपेतं द्विपद्मकं ।

शुक्राखरं तन्महाकालः सिद्धो देवात्रहाकिनौ ॥

Shivasamhita.

(3) आज्ञानामास्तुजं * * सुशुभ्रं * * ।

एतत्पद्मान्तराले निवसति च मनः सूक्ष्मरूपं प्रमिद्धं,

योनौ तत्कर्णिकायामितरशिवपदं लिङ्गं चिह्नप्रकाशं ।

* * * * *

लयस्थानं वायोस्तुपरि च महानादरूपं शिवार्जं,

शिवाकारं शान्तं वरदमभयटं शुद्धवोध प्रकाशं ।

Shatchakranirupana.

The *Ajnachakra* is placed between the two eyebrows and consists of two lobes, which are white in colour. The structure named *Itara* is placed in the *Karnika*, shaped like the vagina (that is, triangular in outline). There is another crescent-shaped space above the *Karnika*.

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The *Ajnachakra* is undoubtedly the two olfactory lobes taken together. The two lobes of the *padma* are the two olfactory lobes themselves. The anterior perforated space bounded by the medial and lateral striae (the two roots of the olfactory lobe) is probably the *Karnika*. The large space between the origin of the two olfactory lobes and the optic chiasma is probably referred to as the crescentic space.

(c) *Bisuddhachakra* is the fifth one of the group.

(i) कण्ठकूपे विशुद्धाखंगं यच्चक्रं षोडशाश्रकं ।

Yogasikhopanishad.

(2) षोडशारं विशुद्धाखंगं ।

Yogachuramanyupanishad.

The *Bisuddhachakra* is placed in the neck and consists of sixteen lobes. The *Bisuddhachakra* seems to be the cervical and brachial plexuses taken together. The structure of the *chakra* may be thus

interpreted :—the ventral surfaces of the cervical vertebrae may be taken for the body of the *padma*. The margins of the lobes (*dalas*) are taken to be formed by the union of the cervical nerve-trunks of the two sides. Four lobes may be taken to be formed by the nerve trunk cords of the cervical plexus and four by the nerve cords of the brachial plexus of the same side, thus making the number of lobes sixteen on two sides taken together.

(d) *Anahata chakra*. It forms the fourth *chakra* of the group. It has been described in many Upanishads and Tantric works.

हृदयेऽनाहतं नाम चतुर्थं पङ्कजं भवेत् ।
कादिठन्तार्णसंस्थानं द्वादशच्छदगोभितम् ॥

Shivasamhita.

The *Anahata chakra* is placed in the region of the heart and has twelve lobes.

The *Anahata chakra* seems to consist of the lower sympathetic nerves of the thoracic region, arising from the fifth to the eleventh thoracic ganglia and forming by their union the great splanchnic and less splanchnic nerves. The spaces included by the great splanchnic nerve are four and that by the less splanchnic is a single one.

As the two nerves come close to each other after their origin they might be considered to include a space in addition. Thus we have altogether six spaces included by the nerves on one side and twelve on two sides and these might have been considered as lobes comparable to the petals of the lotus.

(e) *Manipur Chakra*. It forms the third one of the group. We have the *chakra* described in several Upanishads and Tantras.

(1) लतीयं पङ्कजं नाभौ मणिपूरकसंज्ञकं ।
दग्धारं * * *

Shivasamhita.

(2) * नाभिसूले दग्धदन्तसिते पूर्णमेघप्रकाशे,
नौलाभ्योजप्रकाशैरुपकृतजठरे * * ।
* * मण्डलं तन्तिकोणः ।

(3) नाभिकण्ठाधःस्थानं कुण्डल्याहपङ्क्तिं सुने ।
* * * * *

परितः कण्ठपाख्येषु निरुध्यैव सदास्थिता ।

Jabaladarsanopanishad.

(4) तनुना मणिवत् प्रोतो योऽक्र कन्दः सुषुम्नया ।
तन्त्राभिमण्डले चक्रं प्रोच्यते मणिपूरकम् ॥

Yoga-churamanyupanishad.

"The *Manipura Chakra* is placed in the region below the navel and consists of ten lobes. It is blue in colour.* It is held fast on the sides of the *kañda* (the lumbar curvature of the spine projecting into the lower abdomen). It includes a triangular space.

The *Manipurachakra* seems to be the lumbar plexuses of the two sides taken together. The last thoracic and the fine lumbar nerves form the plexus, by their union. The nerves give rise to five spaces on each side which might have been compared to the petals of the lotus. Further, as the nerves pass downwards and outwards to their destination, a triangular space can be easily thought of between the plexuses of the two sides.

(f) *Swadhisthana chakra*. It forms the second one in the group. It has been described in several Upanishads and in several Tantras. Several important passages are quoted here.

(1) सौषुम्नमधारविटिं धजसूलटेशं,
अङ्गच्छदैः परिवृतं * * *

Shatchakranirupana,

(2) स्वाधिष्ठानाह्ययं चक्रं लिङ्मूले षड्सूकम् ।
(3) आधारं प्रथमं चक्रं स्वाधिष्ठानं द्वितीयकम् ।

Yogasikhopanishad.

योनिस्थानं हयोर्मध्ये कामरूपं निगद्यते ॥
(4) उद्दे मेद्रादयो नामेः कन्दयोनिः खगणुवत् ।
तत्रनाभ्यः समुत्पन्नाः * * *

The *Swadhisthana chakra* is placed at the base of the external genital and consists of six lobes. There is a *Yoni sthana* (a triangular space) between the *Swadhisthana chakra* and *Adhara chakra*.

The *Swadhisthana chakra* seems to be the sacral plexuses of the sides taken together. Although the sacral plexuses are formed of the fourth and fifth sacral nerves and the four sacral nerves, the latter nerves were only taken into account probably because the lumbar nerves arise from outside the pelvic cavity. The four sacral nerves thus give rise to three areas on each side, forming six areas on two sides described as the six petals of the lotus.

* This probably refers to the astral image seen by the Yogis.—Editor.

(1) अथाधारपद्मं सुषून्नाविलग्नं ध्वजाधो गुदोऽर्द्धम् ।
Shatchakranirupana.

(2) गुदात्तुद्वाङ्गुलादूर्ढं मेद्रात्तुद्वाङ्गुलोदधः ।
 चतुरङ्गुलविस्तारमाधारं वर्त्तते सम् ॥
Shivasamhita.

(3) गुदाद्वाङ्गुलतश्चोर्द्धं मेद्रैकाङ्गुलतस्वधः ।
 एवज्ञाति समं कण्ठं समताचतुरङ्गुलम् ॥
 पश्चिमाभिमुखो योनिगुर्दमेद्रान्तरालगा ।
 तत्र कण्ठं समाख्यातं तत्रास्ते कुण्डली सदा ॥
 संवेष्ट्र सकला नाडीः साष्ठ्या कुटिलाङ्गतिः ।
 मुखे निवेश्य तत्पुच्छं सुषून्नाविवरे स्थिता ॥
Shivasamhita.

(4) गुदवजान्तरे कण्ठमुत्सेधाद्वाङ्गुलं विदुः ।
 तस्य हिगुणविस्तारं बृन्तरूपेण शोभितं ॥
 नादास्त्रव समुद्भूता मुख्यास्त्रिमः प्रकीर्तिता ।
 ईडा वासेस्थिता नाडी पिङ्गला दक्षिणेमता ।
 तयोर्मध्यगता नाडी सुषून्नावंशमाश्रिता ।

* * * * *

आधारकण्ठमध्यस्यं त्रिकोणमतिसुन्दरम् ॥

Saradatilaka.

(5) गुदमेद्रान्तरालस्यं मुलाधारं त्रिकोणकम् ।
Yogasikhopanishad.

(6) आधारे पश्चिमे भागे त्रिवेणीसङ्गमो भवेत् ।
Yogasikhopanishad.

(7) देहमध्ये गिखिश्यानं तप्तजाम्बुनदप्रभम् ।
 त्रिकोणं मनुजानां तु सत्यसुक्तं हि साङ्गृते ॥
 गुदात्तुद्वाङ्गुलादूर्द्धं मेद्रात्तुद्वाङ्गुलादधः ॥
Jabaladarsanopanishad.

(8) चतुर्दलं स्यादाधारम् ।
Yogachuropanishad.

The *Muladhara chakra* is considered as the first and main *chakra* of the group. It has been described in detail in many treatises.

The *Adhara chakra* is triangular in shape and consists of four lobes. It is placed two fingers' breadth below the external genital and two fingers' breadth above the anus, and occupies an area of four fingers' width. The *chakra* is directed backwards and divides into eight branches. It is connected with *Susumna* and behind it lies the union of *Susumna*, *Ida* and *Pingala*.

The *Mūladhara chakra* seems to be the pudendal plexuses of the two sides taken together. Each plexuses is formed of the fourth and fifth sacral nerves and the coccygeal nerve giving rise to 2 spaces on each side, thus resembling the lobes with four petals. As the nerves receive grey rami communicated from the two sympathetic nerve cords which are again united posteriorily on the coccyx in the *ganglion impar*, the *chakra* has been noted to be connected to the spinal cord (*Susumna*) which is thus said to be united with the right and left sympathetic nerve cords. The ganglion impar is probably referred to as *Kulakundalini*.

In this connection we may quote a passage from *Varahopanishad* which describes a place of origin of nerves and a *chakra*.

पायुदेशात्तु द्वाङ्गलात् परतःपरं ।
मेद्रुदेशादधस्तातु द्वाङ्गलान्मध्यमुच्यते ॥
मेद्रान्ताङ्गलादूर्ध्वंनाडीनां कण्ठमुच्यते ।
चतुरङ्गलमुन्मध्यं चतुरङ्गलमायतं ॥
अण्डाकारं परिवृतं मेदोमज्जास्थिशोणितेः ।
तवैवनाडोचक्रं तु द्वादशारं प्रतिष्ठितं ॥
ग्रोरं भ्रियते येन वर्तते तत्र कुण्डलौ ।

Beyond two fingers' breadth from the anus and within two fingers' breadth of the region of the penis and above one finger's breadth below the penis is a mass of *nadis* (viz., of the origin of *nadis*) ; it projects for four fingers' breadth and measures four fingers' breadth in area ; it is shaped like an egg and covered by fat, marrow, bone and blood. It is there that a *nadichakra* with twelve lobes is placed ; the body is supported by it and a *kundali* lies in this place. The passage evidently refers to the sacral and pudendal plexuses taken together. The additional lobe on each side is probably the one between the first sacral and fifth lumbar.

VRINDA MADHAVA

BY

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Vrinda wrote on Therapeutics. His book is called *Siddhayoga* or *Vrinda Mudhava*. The work professes to be a companion volume to Madhava Kara's *Rugviniscaya* and is a summary of the therapeutic knowledge known at that time. So he says :—

नानासत्प्रथितसृष्टफलप्रयोगः प्रस्ताववाक्यसहितैरिह सिद्धयोगः :—

द्वन्द्वेन मन्दमतिनमहितार्थनाऽयं संलिख्यजते गदविनिश्चयण क्रमेन ॥

Srikantha Datta explains गदविनिश्चयक्रमेनेति । रुग्विनिश्चयाख्य
निदानसंग्रहोक्ताध्यायपरिपाल्या ॥

Beginning :

ध्यात्वा शिवं परमतत्त्वं विचारविदं च गडोमभीष्टफलदा सगगां गणेशम् ॥

धन्दन्तरिं मुनिवरं मुनिसुश्रुतादीनावेयसुग्रतपसं मनसा प्रणम्य ॥

End : इति विविधसुनीनां बाक्यमालोक्य यत्रात्
खमतिपरिमितैर्विख्यातिमङ्गः प्रयोगैः ॥

प्रथित इह मयाऽयं संग्रहो द्वन्दनान्ना

सपदि स हि लिखिला सिद्धयोगः समाप्तः ॥

As regards an analysis of the work, see the analysis of *Rugviniscaya*, for the order of its chapters is followed in this book.

Commentary :

1. *Vakhya Kusumavali* = V. K. V. Commentary on *Siddhayoga*, by Srikantha Datta.

2. *Vrinda Tippani* : It is not known who is this glossator. The glosses now form a part of the work. It is said that Vrinda himself is this gloss-writer. This gloss existed before Chakrapani Datta.

Editions :

1. *Vrinda-Madhava*—Apranama—*Siddhayoga* with Srikantha's Commentary V. K. V.—Anandasram Series, 1894. Poona.

As to the question of identity of Vrinda Madhava with Madhava Kara and Madhavacharya we have discussed it before under Madhava Kara.

Authors quoted in *Vrinda Madhava* or *Siddayoga* :—

Visnu

Shiva

Rudra

Tara

Chandi

Bhaskara

Asvins

Ganesa

Dhanvantari

Kasyapa

Susruta

Atreya

Kankayana

Vriddha Vagbhata

Vagbhata

Valluki Tantra

Mukunda, Govinda &c.

Charaka

Jaijjata

Manibhadra

Mss : I. O :—573, 2672.

Ox. Cat :—750, 849, 850 (where an analysis of the contents is given).

GOML : 13251.

Chronology :

Vrinda is anterior to Chakrapani Datta (1060 A. D.), for he quotes from Vrinda, and as he himself quotes Madhava Kara (7th Century), he is posterior to Madhava.

Though Vrinda has expressly said that his book is a mere compilation, but we find many new formulae described for the first time in his work :

In Fever—Caturdasanga }
 Astadasanga } decoctions

Angaraka oil.

In Piles—Pranada Pills

Kankayana Modaka

Vahusala guda.

Bhallatka guda

- In Worms—Vidanga butter.
- In Anæmia and Chlorosis—Punarnava Mandura.
- In Rajajaksha or Phthisis—Chhagaladya butter.
- In Svasa or Asthma—Bhargi Guda.
- In Vatavyadhi or Diseases of the nervous system—Narayana and Mahanarayana Oil, Vrihanmasa or Saptaprashta Mahamasa Oil, Kuyja Prasarini Oil.
- In Vatarakta or Leprosy—Kaisora Guggulu.
- In Parinamasula—Satavari Mandura.
- In Hridroga or Heart disease—Arjuna butter.
- In Kustha or Leprosy—Guggulu Panchatiktaka butter, Maricadya Oil.
- In Mukharoga or Diseases of Mouth—Vrihat Khadiradi pills.
- In Pradara or Leucorrhœa—Sitakalyanaka butter.
- In Yoniroga or Vaginal diseases—Phala butter

SRI MADHAVA.

Sri Madhava, a tippanakara or glossator, is mentioned by Dallana as one of his sources.

तन् श्रीजैञ्जजकटं टोकाकारं श्रौगयदासभास्त्ररौ च पञ्जिका-
कारौ श्रीमाधवन्नदेवादोन् ठौप्पनककारांशोपजोव्यायुर्वेदशास्त्रसुश्रुत-
व्याख्यानाय—निवस्यसंग्रहः क्रियते ।

Thus we learn that Sri Madhava wrote glosses on the Susruta Samhita. But Sri Madhava is never quoted by name in Nivandha Samgraha. So Hœrnle thinks that Srimadhava the glossator is the same as Madhavakara, the author of Nidana, as he was not aware of any other medical writer Srimadhava by name. Surely no gloss of Srimadhava is available, but that is no reason to conclude that Srimadhava had no separate entity. Again we find Srimadhava quoted by name in V. K. V. separately from Madhava Kara :

I. श्रीमाधबोध्याह—

लङ्घनं तद्विधा न्येयं ग्रमनं शोधनं च तत् ।
ग्रमनं ग्रमयेद्वैषान् शोधनं शोधियेन्मलान् ॥
ग्रमनं सप्तधा लुट्टव्यायामपवनातपां ।
पावनं दोपनं च स्यात् पञ्चधा शोधनं मतम् ॥
उर्ध्वं बिरेवनं नस्यं निरुहोऽस्य विसृतिः ।
निरुहं लुहणं बाति पित्ते ग्रमनरेचनम् ॥
ग्रमनं लङ्घनं कूर्यात् कफे रक्तशुलादिकम् ॥ P. 9

Here Srikantha Datta quotes both Brahmadeva and Srimadhava, and we know that both of them are mentioned as tippanakara or glossator by Dallana.

2. माधवो आह—

आदित्येऽनुदिते वृग्नामञ्जनं न हितम् मतम् ॥
तिमिरारुषिकारोगकच्छ्रीमौलनवेदनाः ।
निस्तोदतोदशोफाद्यं तेषां कुर्यावदञ्जनं ॥

P. 45.

3. अमाध्माधवः आह—

लब्धाश समदोषले समाग्नित्वादयस्तदा ।
पृथगुक्ताः किमर्थं ते तत्किमेतन्निरर्थकम् ॥
समाधत्ते च

दोषस्यस्ते यतो भिन्नाः पृथगुक्ता अतस्तु ते ॥

P. 615, (१)

Do these passages occur in Madhava's Nidana? Again, in Vyakhya Madhukosa Vijaya Raksita refers to Madhava, a commentator, whose work he has utilised in compiling his V. M. K.:

भट्टार जेज्जडगदाधर बाप्यचन्द्र श्वचक्रपाणि बकुलेखर सेनभव्यः ।
ईशान कार्त्तिक सुवैर सुकोर वैद्यै मैत्रै लेय माथव मूखे-

स्त्रिखितं विचिन्त्य ॥

— उत्तरार्थानुसारं इति विचिन्त्य एव ॥ ३
— उत्तरार्थानुसारं इति विचिन्त्य एव ॥ ४

— उत्तरार्थानुसारं इति विचिन्त्य एव ॥ ५
— उत्तरार्थानुसारं इति विचिन्त्य एव ॥ ६
— उत्तरार्थानुसारं इति विचिन्त्य एव ॥ ७
— उत्तरार्थानुसारं इति विचिन्त्य एव ॥ ८
— उत्तरार्थानुसारं इति विचिन्त्य एव ॥ ९
— उत्तरार्थानुसारं इति विचिन्त्य एव ॥ १०
— उत्तरार्थानुसारं इति विचिन्त्य एव ॥ ११
— उत्तरार्थानुसारं इति विचिन्त्य एव ॥ १२
— उत्तरार्थानुसारं इति विचिन्त्य एव ॥ १३
— उत्तरार्थानुसारं इति विचिन्त्य एव ॥ १४
— उत्तरार्थानुसारं इति विचिन्त्य एव ॥ १५
— उत्तरार्थानुसारं इति विचिन्त्य एव ॥ १६
— उत्तरार्थानुसारं इति विचिन्त्य एव ॥ १७
— उत्तरार्थानुसारं इति विचिन्त्य एव ॥ १८
— उत्तरार्थानुसारं इति विचिन्त्य एव ॥ १९

SMALL-POX IN AYURVEDA

BY

ASHUTOSH ROY, L. M. S., HAZARIBAGH.

(Concluded).

5. If severe inflammation of the throat :

(b) *Give Astanga Abaleha :*

R/

Kat Phal (*Myrica Sapida*) good in throat.

Kur (*Aplotaxis Auriculata*)—stimulant.

Kakrasringi (*Rhus Succidanea*)—expectorant.

Ptychotis—carminative.

Black Caraway—do.

Trikatu do.

To lick with ginger-juice and honey.

(c) Compress of heated leaves of Jayanti (*Prunua Serratifolia*)

(d) Compress of basal stem of plantain leaf heated.

(e) Paste of ginger, Alois, Black Caraway and "Durba"

(*Agrostis Sipiasuroides*) press on outside of throat.

(f) To lick :—

Long Pepper,

Haritaki (*Chebulic Myrobalan*),
mixed with honey.

**6. If new eruptions donot come out—
give Nimbadi Pachan.**

7. If excess of eruption :—

(i) Dust pulv of leaf of Jainti (*Sesbania Acubata*), or of

(ii) Ganiari (*Prunua Spinosa*).

8. If eruption suppressed :—

(i) give Nimbadi Kvath,

(ii) Application of juice of leaf of Telakucha and butter,

(iii) Decoction of Kalmi Shag (*Ipomaea Replaus*)
risky procedure,

(iv) Water of fried Methi (*Trigonella Foenum-fraecum*),

(v) Root of Satamuli (*Asparagus Racemosus*)—to give with
unboiled cow's milk and water.

(vi) Wash eruptions with water boiled with Nim leaves,
after cooling and straining.

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9. If eruptions ripe—to quickly dry it :
 • give Nim oil,
 Nim-ghrita,

Panchatikta Ghrita.

R

610.5

J 82 J

V. 1-2

3

R/

Nim-bark,
 Patole-leaf (Palta),
 Kantikari,
 Gulancha,
 Vasak.

Boil them with water—to the strained decoction add ghrita and paste of three myrobalans and prepare as directed.

10. If much discharge from eruption,

(i) give dust of *Pancha-balkal* :

R/

Bata	}	... Astringent-antiseptic.
Aswagandha		
Jajna-dumbur.		
Pakur		
Amla-betas		

(ii) Dust of the following :—

Bata	}	... Astringent antiseptic.
Jajna-dumbur		
Aswattha		
Pakur		
Bakul		

11. If eruption severe and apex of eruption blackish,
 give the following :—

Pulv Turmeric	}	Equal parts to dust three times daily.
„ Chalk		

12. If eruptions less—associated symptoms are burning and
 much pain, give the following :—

R/

Butter,
 Water in which Amloki is soaked,

„ „ Nalita „

13. Before formation of pus, give

R/

Pulv fried Linseed,
 „ Turmeric,

Pulv. Embelic Myrobalan.
To dust.

14. If eruption do not take head, apply paste of ghee and water in which Linseed is boiled.

15. If fever, give Nimbadi Kvath or Dasamul Kvath.

16. If much burning of body, apply ghrita with juice of Nim-leaves and bark of Jajna-dumbur.

17. If much thirst, give water in which *Amsi* and Liquorice are soaked or *Amsi* and Bamboo leaves are soaked.

18. If distaste for food :—

Decoction of Amrul Sag (sorrel) mixed with Rock-salt.

To apply a little on tongue.

19. If Phlegm in chest :—

Honey and Rock-salt.

or

Ghrita and Rock-salt.

To put on the tongue by finger.

20. If phlegm gets dry :—

(i) give decoction of Liquorice, dried grapes, Vasak, and Black Pepper.

(ii) Apply old ghrita on chest.

(iii) Apply juice of betel leaf and onion heated.

21. If hacking cough with irritation of throat, give :—

(i) *Chandramrita Rasa*.

R/

Mercury,

Sulphur,

Iron,

Burnt Borax.

Trikatu,

Triphala,

Chai (Piper Chava),

Coriander,

Caraway,

Rock-salt,

Mix into pills.

R/ (ii) Or give *Talisadi Churna*.

Talispatra (*Pinus Werbiana*)—expectorant,
Trikatu,

Bamboo-manna, *Phragmites Communis* (Bamboo) *Chitramalai* (i)
 Cinnamon, *Cinnamomum Zeylanicum* (Cinnamon) *Vak*
 Cardamom, *Elettaria Cardamomum* (Cardamom) *Amalaka* *Turmeric* *deA* (ii)
 Sugar, *Saccharum officinarum* (Sugar) *Amalaka* *Turmeric* *deA* (iii)
 Pulv.

22. If respiratory difficulty :— *Utsalat*

(i) give Makaraddhaj with juice of tender branch of Bok-phu (*Sesbania Grandiflora*) or *Utsalat*

(ii) Ghee heated with leaves of Chameli Flower strained.

23. If much cough, give decoction of *R/*

Talispatra, *Adonis Amurensis* (Talispatra) *Utsalat*
 Bak, *Salvia Sibirica* (Bak) *Utsalat*
 Liquorice, *liquorice* (Liquorice) *Utsalat*
 Trikatu, *Trikatu* (Trikatu) *Utsalat*
 Bark of Vasak, *Vitis Vinifera* (Vasak) *Utsalat*
 Duralava (*Alhagi maurorum*), *Utsalat*
 Kakra-Shringi (*Rhus Succedena*), *Utsalat*
 Root of Chita (*Plumbago Zylanica*), *Utsalat* *deA* (i)

24. If eruption in Eyes, give, *Utsalat* *deA* (ii)

(i) Madhukadi Prolep.

R/ *Utsalat* *deA* *Utsalat* *deA* *deA* *deA*

(ii) Sprinkle with decoction of

Gokshur, *Gokshur* (Gokshur) *Utsalat* *deA*

Chakulia (*Doodhia Lagopoides*), *Utsalat* *deA*

Liquorice, *Utsalat* *deA* *Utsalat* *deA* *deA*

(iii) Sprinkle with decoction of

Liquorice, *Utsalat* *deA* *Utsalat* *deA* *deA*

Myrobalans, *Utsalat* *deA* *Utsalat* *deA* *deA*

Murba (*Sesbania Zuglanica*), *Utsalat* *deA*

Daruharidra (*Berberis Asiatica*), *Utsalat* *deA* (ii)

Cinnamon Bark, *Utsalat* *deA*

Nil Padma (*Nymphaea Stellata*), *Utsalat* *deA*

Khas-Khas root, *Utsalat* *deA*

Lodh (*Symplocos Racemosus*), *Utsalat* *deA*

Manjistha (*Rubia Cordifolia*), *Utsalat* *deA*

25. If swelling of eyelids so that eyes are shut—*Utsalat*

(i) to dust on eyelid, *Utsalat* *deA* *Utsalat* *deA*

Pulv Turmeric and Pulv Chalk, *Utsalat* *deA* *Utsalat* *deA*

(ii) "Kajjal" obtained from bark of *Ta-palita* (?) *Utsalat*

26. If *hara-netra* (Facid Hippocratica) :—

R/

- (i) Ash of burnt plumes of peacock with *Astanga Abaleha*.
- (ii) or the following :—

R/

Trikatu,
Black Caraway,
Bark of Kur (*Sansuria Auriculata*),
Catechu.
Kakra-Shringi (*Rhus Succedenia*),
Duralava (*Alhagi Maurorum*),
 to be rubbed with honey and given.

NOTE :—Black pepper in the above prescription should be avoided if there is ulcer in throat.

27. For washing mouth and face :—

Decoction of catechu,
 „ of leaves of Chalta.

28. If eyesight dimmed :—

- (i) Drop water of "Shamuk" (oyster).
- (ii) Camphor water.

29. If much swelling and abscess (threatened abscess)—apply poultice of Pulv Oat and Mash-kalai.

30. If much eruption on soles of feet, wash with water in which rice is soaked.

31. If much burning and haemorrhage from eyes, juice of fresh liquorice.

32. To prevent maggot in resulting ulcer :—

- (i) Fumigation with incense (Dhuna) and other fragrant wood burnt in the room.
- (ii) Heated juice of young bamboo cane.

33. If stomatites with excess of saliva from mouth, give the following gargle :—

R/

Bark of Jannai tree,
 „ of Guava tree,
 Alum

Decoction can be used as a routine gargle to prevent stomatites.

34. Ulcer in mouth—Saliva blood-tinged.

- (i) Gargle in No. 33 above.

(ii) Gargle of—

Juice of leaf Ayapan (*Hamamelis*),
 • Makaraddhaj,
 • Bamboo-manna,
 Camphor.

35. Blood in stool—gargle ii. in No. 34 with juice of heated Brinjal.

36. Vaginal haemorrhage :—

R/

Bark and leaf of Asoka (*Saraca Indica*),
 Bark of Nim tree,
 Gulancha,
 Khetpapra (*Oldendalia Corymborn*),
 Red Sandal-wood,
 Amloki,
 Manjistha.

Decoction.

37. If diarrhoea :—

R/

Pulv dried unripe Bael,
 Mutha (*C. Rotundus*),
 Coriandar-seed,
 Kurchi-seed,
 Amsi,
 Bark of Bæl tree, of Soma tree (*Begonia Indica*).

Decoction.

38. If nausea and vomiting :—

R/

Inside of seed of Plum,
 „ of Cucumber,
 „ of “Kankur”,
 Kulthi Kalai (*Dolichos Bi floris*),
 Rau-chini,
 Red and white Sandal wood,
 Debdaru (*Pinas Deodora*),
 Root of Gandha-Bena (*Andropogon Muricatus*).
 Decoction.

39. If urine reduced in quantity, give Makaraddhaj with decoction of Gokkshur.

Indication for Makaraddhaj. ayurveda (ii)

- If diarrhoea—with juice of Muthia.
- If tympanitis—with water in which Rice is soaked.
- If hiccup—with water in which "Khaj" is soaked.
- If burning—with juice of Palta or juice of Pomegranate.
- If haemorrhage from mouth—with decoction of dried grapes
Baladi le lemon juice and liquorice.

Fourth Stage or Terminal Stage.

1. If there is no high fever or delirium :—

Give Sindurayoga,
or Indukalabati,
or Patoladi Kvath,
or Sarbatobhadra Rasa,
or Panchatikta ghrita guggul.

SARBATOBHADRA RASA.

R/

Red sulphide of mercury,
Mica,
Gold and Silver (Nervine tonic),
Realgar or Red sulphide of Arsenic,
Bamboo manna,
Purified guggul (Balsamodendron mukul),
Rub with ghee and give.

This is more or less a tonic. It contains excess of metals (Dhatus) to replace tissue (Dhatu) wasted.

The higher the metal, it is useful in the higher tissues and vice-versa; thus the finest tissue (Brain and Nervous tissues) is affected favourably by higher metals (gold and silver). The lower down in the body e.g. urinary organs whose derangement is corrected by a metal lower in the scale (e.g. Tin).

PANCHATIKTA GHRITA GUGGUL.

R/

Nim-bark,
Palta,
Kantikari,
Gulancha,
Vasak.

Boil in water. To the strained decoction add ghee and paste of 3 Myrobalans.

Before adding to the strained decoction, wrap in a piece of clean cloth some guggul and immerse in the warm strained decoction. The aromatic principle is absorbed.

- (2) To help drawing of pustules :—

R/

Pure mustard oil, or a mixture of equal parts of broken oil of
Chaulmugra oil,

with black caraway and pomegranate leaf fried and strained. Application.

(3) If ulceration, wash with water in which Nim-leaves are boiled and strained and then apply medicated oil of chaulmugra.

(4) When pustules drying, give Dasamul kvath, Chandramrita kvath if much burning.

(5) For washing mouth and face. Decoction of catechu and leaves of Chalta.

(6) For washing body when scabs have formed—paste of Nim and } specific
Turmeric } antiseptic.

(7) To minimise or prevent pigmentation of skin after pox—washing with milk of cocoanut.

DIET.

(1) When a few eruptions have come out :—In the morning "Bhat" (rice), "Kalaidal", "Lau". In the evening—Milk and Sagu.

(2) When eruptions have come out in full, give rice and milk. If pain in throat—donot give milk.

(3) When pustules are formed or there is fever—stop rice.

(4) When drying—

"Halua", "Mihidana"
"Luchi", fried "Chida".

PROPHYLAXIS.

The best is vaccination. Inoculation gives better immunity, but is always risky.

Use of young Nim leaves as vegetables in spring, e.g., Nim-palta, Nim-begun (young Nim leaves fried with brinjal, potato, etc.).

Turmeric paste applied to body before taking bath in spring—Madrasi women are in the habit of doing it.

Goddess Shitala, the presiding deity of Small-pox.

So great was the dread of small pox in our country before the advent of the British who popularised vaccination, that the ancient Hindas believed that the goddess Shitala presides over the disease and treatment of pox brings on her wrath.

The goddess is conceived and painted as riding on an ass, the animal immune to pox. The goddess is painted red, because red colour is beneficial to the disease, as has been proved by Finsen.

Hence it is desirable to put screens of red cloth on doors and windows of a room where there is a small-pox patient.

Finsen has discovered that the red rays of the sun has a soothing and antiseptic effect on the lesions of pox. He advocated red-light treatment for eruptions of small-pox. The lesion heals up nicely and scar-formation and pigmentatoin of skin is minimised.

Homœopaths depend on the application of Tinct. Thuja when the scabs fall off to prevent pigmentation.

THERAPEUTICS OF PARIBHADRA

BY

VISHAGBHUSAN KAVIRAJ A. C. BISHARAD,

M. R. A. S. (London).

Synonyms :—*Pálitá Mídár, Pálidhá* (Beng.) ; *Nimbataru, Mándar, Párijátaka* ; *Erythrina Indica*, Linn ;

Eng. Coral tree ;

Hind :—*Farhd* ;

Mahratti :—*Pánoró, Paringa, Panjir* ;

Canarese :—*Haribal* ;

Telugu :—*Modugu, Baride chettu* ;

Tamil :—*Moorak* ;

Gujrati :—*Panderabó*.

Páribhadra finds an important place in Ayurveda and is classified in the list of Drugs known as “Guruchibarga.”

It is described as effective in reducing *Vayu* and *Kapham* and as a curative agent in dropsy, fatty degeneration, worms and diseases of the ear.

U. C. Dutt's *Materia Medica* mentions it only by name on page 312 in the general list of drugs. In Bengal the *Vaidas* use it mainly as a curer of intestinal worms. I have used it for a sufficiently longer time to enable me to pronounce on its efficacy in some acute and chronic forms of cases which baffled other treatment.

I have used it with uniform success as a curative agent of superior efficacy in intestinal worms. **Dose** : I to $2\frac{1}{2}$ tola fresh expressed juice of the leaves every morning with *Biranga Lauha* and honey a few drops. If *Biranga Lauha* is not available, administer the fresh juice with honey only and note the result. The worms whether thread, tape or round will be gradually expelled within a fortnight and the patient will be freed from all attendant complaints.

In difficult urination the juice of the leaves one tola morning and evening will make the urine clear and will enable the patient to pass it without the slightest pain.

A decoction prepared of the leaves of *Pálitá Mídár* and *Amlaki* (Embelic Myrobalans) one tola each, smashed and boiled in 16 oz. water reduced to 4 oz. strained through a linen and then administered, acts as cathartic useful in patients suffering from chronic dyspepsia attended with constipation.

The fresh juice of the leaves is useful in curing dysmenorrhœa of even long standing. It has been effective in removing sterility in women of fatty constitution. The fat gradually reduces and the menstrual flow re-appears or becomes natural, according to the nature of the case. It is generally required to use it from 2 to 3 months.

In diabetes the following prescription is effective :—

Take of the root-bark of the *Pálitá Mídár* two tolas, smash and then boil in 16 oz. water reduced to 4 oz., strain through a linen and then administer, once daily every morning. A dose of *Basantakusumakar Rasa* with it will reduce the flow of urine and sugar in it within a very short time.

The fresh juice of the leaves increases the secretion of milk, if taken during the period of lactation, by women, with little or no secretion of milk.

EXTERNAL APPLICATION :

I have tried it with success in Bubo ; the Bubo should be covered with the heated leaves and then bandaged. The bandage should be changed twice daily till gradually it subsides.

As it belongs to the bitter class of drugs such as *Nimba* (*Azadiachta Indica*) and *Gulancha* (*Tinospora Cordifolia*) I believe it can be used with success where the latter are indicated.

Reviews and Notices of Books.

Khadyatattwa OR PATHYAVICHARA : by Dr. Rajani Kanta Mazumdar, price As. 12/-, cloth bound Re. 1/-.

This interesting book of 157 pages is based mainly on the principles as laid down by the great authors of Ayurveda. The learned author, who is a Homeopath, has also requisitioned not only his own experience of about 35 years, but also the results of investigations under the Western System of Medicine. The book is in the form of conversation between a Guru and a Shishya, regarding the various foods that we consume, their qualities and adaptability to the various states of health and disease, it is a very interesting and informative book and ought to be in everybody's hands. Having regard to the amount of information compressed into the book the price does not seem to be excessive.

Jvara : by Dr. Chandra Chakraborty, price Re. 1/-.

This brochure treats of the various descriptions of fevers prevalent in Bengal, including what has now become the menace to the people of Bengal, viz., Jirna-jvara, i.e., tuberculosis. The author's treatment of the subject is remarkably clear and well-arranged and its value is materially enhanced by the inclusion of three plates and a number of prescriptions. This book will not only interest the general readers but also medical practitioners, particularly in outlying parts of the mofussil. The price seems to be a little high in view of the fact that it consists of 80 pages only and that it deserves a large circulation and sphere of usefulness, which only a lower price can ensure.

Sankramaka Roga : by Dr. Chandra Chakraborty, price As. 12/-.

This little book of about 80 pages treats of infectious diseases, commonly known in Bengal. The pathology and aetiology of the diseases is well-discussed and hints are given as to means of prevention and cure of the diseases. A number of prescriptions are given and these may be found useful by medical practitioners, specially in the mofussil. The diseases discussed in the book are Cholera, Plague, Pox, Syphilis, Gonorrhoea and Leprosy. The book deserves a wide circulation. Being written in Bengali, the book ought to be particularly useful in Bengali homes, where lack of ordinary care when infectious diseases are ripe often leads to disaster.

Malaria : by Dr. Chandra Kanto Chakraborty, price Rs. 2/4/- only.

This book containing four plates, treats of the greatest scourge of Bengal and embodies the latest researches on the subject. As one would expect it also discusses the problem of Kala-azar. The whole matter is treated scientifically and the value of the various medicines used in this connection discussed. Various preventive means are also suggested. The book ought to have a wide circulation in Malaria-ridden places.

Swasthya : by Dr. Chandra Kanto Chakraborty, price As. 12/- only.

This book on general and personal hygiene ought to be welcomed in every household. Not only does it give valuable hints as to the safe-guards for health in general, but it treats of the dangers that one often meets in life, i.e., poisonous insects and animals, poisoned food stuffs, intoxicants, etc. Various remedial measures are described which will be of interest and value to the reader.

Elements of Endocrinology :—By Dr. Santosh Kumar Mukerjee, M. B., Editor, Indian Medical Record and author of Infantile Cirrhosis of Liver, etc. Pages 227 XIV. Published by Indian Medical Record Book Deptt., 2, Horo Kumar Tagore Square, Calcutta. Price Rs. 3.

There is no subject in medicine at the present time which has aroused such a wide-spread interest as "Internal Secretions". Dr. Mukerjee who is too well-known to need any introduction to our readers has rendered to the medical profession in India a very great service in putting the salient facts of this important branch of knowledge with special reference to diseases common in India, within easy reach of any one who wants to know what are the ascertained facts on "Internal Secretions."

In the first chapter the author gives a cursory view of the whole subject and deals with the history of the organotherapy general characters of internal secretions, difference between the action of nerves and that of internal secretions, their relation and systematic account of all the glands of internal secretions such as the thyroid, parathyroids, adrenals, pituitary, pancreas, thymus, pineal, sex glands, parotid, tonsils, kidneys, etc. In each case the author gives brief notes on anatomy, histology, embryology,

method of physical examination, functions, diseases and therapeutic application of the endocrine glands.

A wealth of material has thus been gathered in this one volume and sifted critically in an authoritative manner. It is a work which is perfect in simple presentation of a most intricate subject. The book is clear and concise and for all practical purposes exhaustive ; and more than this, it is interesting reading. The value of the volume however depends on the evidence of personal experience ; it abounds with practical suggestions and useful prescriptions. It will thus serve as a reliable guide in the use of the newer organotherapeutic drugs in the treatment of diseases which is the new fashion of the day.

We have nothing but praises for Dr. Mukerjee's book and can safely recommend it as one of the books which should be on the table of every medical practitioner in India for immediate and constant reference.

There is an interesting introduction from the pen of the great American authority Dr. Henry R. Harrower, which is very instructive. The get-up of the book is all that can be desired.

A. C. B.

CORRESPONDENCE.

TO THE EDITOR,

THE JOURNAL OF AYURVEDA, CALCUTTA.

SIR,

It is a great pleasure to read through the medium of your esteemed Journal scientific articles on Indigenous Drugs. I was particularly interested in *Shilajatu* and *Daruharidra*, both of which appeared in the last number. It is only by such contributions in the Ayurvedic literature that we shall be able to realise the dream of Dr. Ganguli (the learned writer in the September issue)—*The future medical system of the Indian Nation*. That is, however, by the way. I have to say a few words about these drugs.

I. SHILAJATU.

It is through the thesis of the late Dr. Hemchandra Sen that I learned to recognise *Shilajatu* and *Ichthyol* as identical things, except in their mode of purification and chemical treatment. Their source, physical characters and therapeutic indications all support the presumption. But

Dr. Roy's silence on this point, in spite of his knowledge of Sen's thesis, rather creates a doubt about it. Will the learned writer or any other reader shed some light on this point? Moreover, I should like to know whether he has seen the other 3 varieties, viz., the golden, red and white mentioned by him. Sen speaks of a white specimen sent to him consisting of chiefly urea. It must be a different stuff altogether.

2. BERBERIS.

I have been using *Rasaut* for Malarial fevers for many years and gave it an extensive trial during the last Influenzal wave with very gratifying results. This is confirmed by the results of other independent practitioners. I may mention the name of a very senior member of the profession, Dr. Abinash Chandra Bannerjee of Allahabad, who also is a great admirer of this drug. I hope other members of the profession will be pleased to record their experiences regarding the use of this or at any rate give it a fair trial. Mr. Gupta the learned writer in the November issue speaks of its being used with success in *menorrhagia and uterine discharges*. This requires a little explanation. One might naturally consider it to be a uterine *sedative*, but on the contrary it is a stimulant and tonic. It is easy to conceive how a mild ecbolic can stop distressing discharges by toning up the organ. In my support I may quote the following from *Merck's Annual Report*, 1911. Vol. XXV, P. 170-1.

In my Annual Report for 1892, I alluded to the utility of berberine in weak pains for Fellner had found that the alkaloid caused powerful uterine contractions.

Kurdinawski also confirmed the action of berberine of causing uterine contraction.....

R. Merck has recently again investigated the action of berberine in child birth. Berberine sulphate proved particularly successful in painful and ineffectual labour pains which were accompanied by severe backache..... Merck gave 3 powders at intervals of 10 minutes, the first containing 0.25 gramme (4 grs.), the next two 0.1 gramme ($1\frac{1}{2}$ grs.) each of berberine sulphate in capsules. In one instance he gave two doses of $7\frac{1}{2}$ grs. each with good results and without by-effects. In primiparæ it was successful in 53 p.c. of the cases, but in multiparæ in only 25 p.c.

I hope our Ayurvedic friends will use this as a substitute for Ergot or its more powerful rival Pituitrine.

I remain yours faithfully,

B. K. MITTRA, L. M. S.

शारीर परिभाषा ।

ANATOMICAL NOMENCLATURE

BY

MAHAMAHOPADHYAYA KAVIRAJ GANANATH SEN,
SARASWATI, M.A., L.M.S.

*(Author of प्रत्यक्षशारीरम्—Text Book of Human Anatomy in Sanskrit)
(Continued from the last issue).*

GENERAL TERMS—(Osteology).

अस्थिशारीर (स्त्राधारण मंज्ञा) ।

[Terms marked with an asterisk (*) occur widely in
Ayurvedic Literature].

Cranium—Bones of (14)	... शिरःसम्पूर्णस्थि
Occipital (1)	... पश्चात्कपाल *
Parietal (2)	... पार्श्वकपाल
Frontal (1)	... पुरःकपाल
Temporal (2)	... शङ्खास्थि *
Sphenoid (1)	... जटूकास्थि
Ethmoid (1)	... भर्मरास्थि
Face—Bones of (8)	... सुखमण्डलम् ।
Maxilla (Upper Jaw) (2)	जड़ हन्तस्थि *
Zygomatic (Malar) (2)	गगडास्थि *
Nasal (2)	नासास्थि *
Lachrymal (2)	अशुद्धिठास्थि
Palate (2)	तालस्थि, तालुषक
Inferior Conehae (Turbinates) 2	शृक्तिका, अधःशृक्तिका
Mandible (Lower Jaw)	अधोहन्तस्थि *
Vomer (1)	सीरिकास्थि
Teeth (32)	दन्त *
Incisors (8)	कर्तनक दन्त
Canine (4)	रदनक
Bicuspid (4)	अग्नचर्वणक
Molars (16)	पश्चिमचर्वणक
Wisdom	ज्ञानदन्त } चर्वणक
Ossicles of the Ear (6)	
Incus (2)	अवण सुस्थास्ति
Malleus (2)	अद्गुणिका
Stapes (2)	सुदगरिका
	पर्यालिका

NICKNAMES AND KNAVES.

From time to time unscrupulous manufacturers, exploit imitations of Antiphlogistine under misleading and confusing names. These preparations, purporting to resemble as nearly as possible the original Antiphlogistine, are often without hygroscopic or osmotic properties and usually inert.

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A large percentage of Antiphlogistine is c/p glycerine, which, as we know, has a strong affinity for water. The glycerine exposed to the air will absorb much moisture and this reduces its hygroscopic power. The formula for Antiphlogistine has long been in the hands of the medical profession and thus they know always what they are prescribing. It is more the process of manufacture that counts. The Denver Chemical Manufacturing Company are specialists, having devoted over a third of a century to the manufacture of one product, and the thought and energy of its entire personnel have been with but one thought in mind—Antiphlogistine.

Chemicals of this kind which are carelessly handled and not properly compounded lose whatever therapeutic value they may have before they ever come into the hands of the consumer.

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The Journal of Ayurveda

or the Hindu System of Medicine.

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ORIGINAL ARTICLES.

RABIES IN AYURVEDA

By

KAVIRAJ SHIBNATH SEN, B.A., M.B.

CALCUTTA.

Hydrophobia has been defined in Western science as an acute general infective disease, transmitted from animal to man, specially from rabid dogs, cats, jackals, wolves, etc. The disease affects the central nervous system and has a long and variable incubation period. It is said that it never originates idiopathically either in animals or in men, infection usually following a bite. It has also been proved that an infected animal during the incubation period may transmit the infection to other animals or man by biting or even merely licking an abraded surface, though the infected animal has not yet developed any symptoms of the disease.

These are comparatively modern findings. In Ayurveda the disease in animals and man has been very thoroughly described. We find in Sushruta : (सुश्रुतं कल्प० ७ अ०)

श्वाल-श्व-तरङ्गवृक्ष-व्याघ्रादीनां यदानिलः ।

श्लेष्मप्रदुषो मुच्चाति संज्ञां संज्ञावहाश्रितः ॥

तदा प्रस्तुतलाङ्गूलहनुस्कन्धोऽतिलालवान् ।

अत्यर्थवधिरोऽनपश्च सोऽन्योऽन्यमभिधावति ॥

"When the Vayu of jackals, dogs, wolves, bears, tigers and other ferocious animals becomes deranged by Shleshma and

affecting the nerves, destroys their functions—then the tails, jaws and shoulders of the animals droop and there is profuse salivation. At the time they seem not to hear or notice anything and run at one another."

When such an animal bites a man, the site of bite according to Sushruta becomes partially anaesthetic, and then in course of time the man imitates the cry and action of the animal ; he sees an imaginary reflection of that animal in water or mirror, and he becomes afraid on seeing or even hearing of water. It is for this that the disease has been named "Jalatrasa", commonly known as "Jalatānka," i.e., fear of water (Hydrophobia).

त्रस्यत्यकस्माद् योऽभीज्ञाणं श्रुत्वा वृष्टापि वा जलम् ।
जलत्रासन्तु तं विद्यात् रिष्टं तदपि कीर्तिं तम् ॥

Ultimately the unfortunate man loses all actions and dies in paralysed condition.

It will appear from the above that the disease was fully known to our ancient authors as early as 2500 years B.C. (if not earlier), not as to the symptoms only but also as to the etiology. It appears that they had a clear conception of the incubation period of the disease.

Sushruta says—

“अशुद्धस्य उखड़े इपि वृणो कुप्यति तद्विपम् ।”

“In an infected man, symptoms appear even after the wound has healed up.”

Again—

“कुप्येत् स्वयं विषं यस्य न स जीवति मानवः ।
तस्मात् प्रकोपयेदाशु स्वयं यावन्नकुप्यति ॥”

“If the toxin in an infected man matures as virulent by itself, the man cannot be cured ; so before the toxin becomes virulent by itself it should be provoked artificially and quickly.”

Cauterisation as a method of disinfecting the wound is advocated as the first thing in treatment.

“विस्त्राव्य दंशं तैर्दण्डे सर्पिषा परिदाहितम् ॥”

“Encourage bleeding from the wound by *Nispidan* or

squeezing etc., the method has been fully described elsewhere by Sushruta) and burn the wound by boiling ghee."

Sushruta is of opinion that once the typical symptoms of the disease make their appearance, there is no chance of recovery and the fact has been borne out by the recent western authors. It is well known that inspite of the prophylactic inoculations, symptoms sometimes appear and kill the patient. It is for this that Sushruta's *provocative method* seems to be unique and excellent.

This provocative method has a two-fold advantage. Firstly, a man bitten by an animal suspected to be rabid can at once be pronounced as not infected if symptoms do not appear after the provocative treatment; this relieves the suspected patient of a good deal of worry and anxiety and the physician a good deal of labour. Even now the western authors have not been able to give us a method by which we can ascertain whether a suspected patient has really been infected or not before the symptoms appear themselves. Who can say how many persons per year, in whom no infection has actually taken place, are subjected to the pain and trouble of not less than 15 injections and ultimately reported cured?

Secondly, in a patient when symptoms appear by themselves there is very little left to be done. But when they are artificially provoked they can easily be controlled. By treatment the symptoms gradually disappear and when they disappear the disease is cured. I have a mind to deal with the remedies prescribed by Sushruta on some future occasion. They are now in the hands of village practitioners; many are modified and with many, mantras, religious performances, enchantments and other similar things have been connected. But the thing that cures is the drug.

If this method can be well formulated and tabulated it will be a treasure not only to the Ayurvedists but to the whole medical world.

There is only one point, an important point indeed, in which the sages of the East differ from the modern Western authorities. The latter say that the disease never appears idiopathically but is transmitted from animal to animal and from animal to man. But Sushruta is of opinion that though the usual course is that man acquires the disease from

an animal, sometimes, though rarely, a man, who has never been bitten or even licked by an animal, gets the disease. The symptoms in these cases may vary to some extent, but the fear of water, the essential symptom, is never absent. These cases are equally serious and perhaps more so, because they come to our notice only after the symptoms appear.

Sushruta says—

“अदृष्टो वा जलत्रासी न कथञ्चन सिध्यति ।

प्रसुप्तोऽथोत्थितो वापि स्वस्थस्त्रस्तो न सिध्यति ॥”

“A healthy man who has never been bitten by an animal may be attacked with Hydrophobia or, in other words, may show the fear for water during sleep or while awake and such a man will surely die of the disease.”

In fact, Ayurveda explains all diseases by the Tridoshic Theory, i.e., the theory of disordered metabolism though it recognises the virus as the root-cause. But unlike other questions this is a tangible point, the truth of which can be ascertained by mere facts. I earnestly request workers in Pasteur Institute and other medical men who happen to read this article, to be on the look out if they ever get a case of Idiopathic Hydrophobia, where no history of any bite within a period of two or three years or more can be reasonably traced. An adult of average intelligence can be expected to remember a bite by an animal even if it occurred ten years previously.

NOTICE TO OUR READERS.

Henceforth the Editorial will appear after the original articles.

MANAGING EDITOR.

HYGIENIC METHODS IN AYURVEDA

By

ASHUTOSH ROY, L. M. S. (Hazaribagh.)

These methods consist in daily and seasonal observance of certain hygienic laws enjoined in Ayurveda, the chief of these, says Gananath Sen (*Ind. Med. Record, January, 1923*), are "Dina-charya" (daily observance of certain rules), "Ritu-charya" (seasonal observance of hygienic laws) and "Brahma-charya" (regulation of sexual function). "It is the non-observance of these healthful practices" says the same writer "that makes us an easy prey to the "Jivanus" or germs of diseases.

The factors which keep according to Ayurveda the "Vayu-Pitta-Kapha" balance of the body stable and thus prevent disease may be grouped as follows:

(i) **Hygienic modes of living**—Under this regime the "Jivanus" (germs) may not get foot-hold in the organism and the sympathetic endocrines are not unduly taxed and thus indirectly benefited. This is the common ground of the East and the West.

(ii) **Certain special physical exercises** which were devised by the ancient sages to influence the sympathetic endocrine system directly, so that the vitality of the body is raised and the liability to infection and intoxication are avoided altogether. Almost all of these are unknown to the west.

Major B. D. Basu, I.M.S. (in his work on Diabetes) states that "the holy sages of India found out for themselves, the curability of alimentary toxæmia by means which even now we may adopt with great advantage. They evolved the system of "Yoga" (physical and mental exercises) *not merely to remain free from disease, not only to increase longevity, but also to attain Immortality.*"

In Hindu works of "Yoga", we find injunctions for the observance of these hygienic laws under the headings "Yama, Niyama etc."

"These hygienic measures" says Dr. Bakshi (*Antiseptic, July, 1923*) "consist in taking wholesome food, breathing fresh,

pure air, remaining in good light away from darkness, keeping the body clean externally (Bahih shodhan) and internally (Antah shodhan), taking regular physical and breathing exercises (Pranayam). Plain living and high thinking was the motto of the ancient Hindus."

A. Dinacharya (Daily-life Hygiene).

The principal procedures included under it are :—

(i) **Shodhan** or purification which is external (Bahya) and internal (Antara), so that "Jivanus" (germs) may not invade the system from outside or originate from within. The methods of internal purification are discussed in detail in books on "Yoga". The external "Shodhan" includes such procedures as daily bath, cleaning the teeth and gums and scraping the tongue, changing the clothes daily for washing and drying in the sun (a procedure so necessary in the Tropics due to excessive perspiration), washing the parts perfectly after urination and defaecation. It is enjoined that unless these daily purifications are performed, one should not perform his daily worship, a sure way of making the mass of population strictly follow these rules of hygiene.

Regarding this "Shoucha" (cleanliness) Dr. Bakshi remarks that "our ancestors had a fair knowledge of the principles of cleanliness as performed by "Shodhan". A study of these procedures will make one easily understand what knowledge our oriental ancestors attained about the "germ theory" and the practical applications of these principles to combat infection and auto-intoxication". He concludes that the antiseptic precautions, based on germicidal principles for the prevention of those unforeseen events which cause disease were all included in the principle of "Shoucha."

(ii) **Prompt attendance to calls of nature** :—This is particularly enjoined in Ayurveda. In fact a whole chapter is devoted to describing the bad effects resulting from violation of this simple hygienic law which is absolutely necessary for our well being and which is unfortunately so much neglected now-a-days.

The same idea we find developing in modern medicine. Lorand says, "It is necessary that we must respond to the first admonitions of the intestines and not exhaust the vitality of

its nerves and muscles by exposing them to unnecessary efforts at our expense.”.

Ayurveda does not limit it to the call of the intestines alone. It has mentioned the evil effects arising from not attending the various efforts or calls of nature which include vomitting, sneezing, passing motion or wind, even belching and yawning as also appetite, thirst, shedding tears of sorrow, sleep etc.

Regarding sleep Lorand notes as follows : “Sleep serves to free the body from the products of intoxications and replace spent energy. A glance at a patient passing a sleepless night will show his condition by his sunken eyes, hollow cheeks, pendant features which bear a strong resemblance to the face of an elderly person. Infants fall so easily asleep because their ductless glands (the chief detoxicating agents of the body) are not yet active. Children for the same reasons require more sleep than adults”. Violation of any of the calls of nature adversely affects balance of the “Vayu-Pitta-Kapha”—triad and brings about its own punishment by increasing liability to infection and intoxication, reducing longevity and inducing premature old age.

(iii) **Morning walk in open air.** After the morning “Soucha” (cleanliness) one should go out to collect flowers for daily worship. One can understand what an invigorating power is to be found in the early morning air fragrant with natural floral perfumes, the stimulating effect of the first morning sun (full of ultra-violet rays). *One cannot but admire the ancient Hindu savants, for how simply and cleverly they enforced these laws of hygiene in the name of religion, which the general mass of people dare not disobey, nay, on the other hand strictly follow with pleasure and profit.*

That there was “a strong religious feeling intermingled with the purely practical part of the question” cannot be denied, but it cannot be stated to the disparagement of system, the Ayurvedic system, as some foreign critics are inclined to do.

“Look at the above picture and the picture of town life at the present day in India, how the aristocratic and middle class townsmen, nay, the very labourers who flock to the town, pass their days. Before one gets up from bed, one

partakes of a cup of tea (often made by the unclean maid of the house in unclean pots in poor families) before washing the mouth and face with water. Tea—that deadly decoction whose naked bad taste is hidden by the addition of milk and sugar, is sapping the very vitality of our nation, a beverage quite unsuited, may be absolutely unnecessary for people living in the warm tropics. Then he enjoys his smoke and goes to ease himself. He takes his bath, bolts his meals, dresses up quickly and runs for his place of business. The food is adulterated, the office dress is unsuited, the working hours are during the intense heat of the day when nature is half asleep. The old days of simplicity, ease, idyllic life, intense religious tendencies are gone for ever—never to return. The same story is repeated after office hours on returning home at night.

(iv) **Mitahar (Moderate eating).**—This consists in partaking of clean wholesome food appropriate for each season and for each individual diathesis, and avoiding such foods as are *physiologically incompatible*, never bolting the food, but partaking of it slowly, masticating it well to abstract all the vitamines out of it.

In brief, as the "Gita" says, "mitahar" means a well-balanced diet in proper quality and quantity ; regulation of food as to what to take, how to take, when to take and what to avoid. Thus food older than one day—the flavour and taste of which are gone and which is fommented &c.—is to be rejected. Such foods are the natural habitats of infectious microbes and are injurious to health.

(v) **Vyayama or physical exercise.**—Everybody should perform daily exercise to keep health. Ordinary breathing exercises (Pranayama) used to be performed during daily worship. Regarding special exercises minute directions are given in the works of *Yoga*.

"Abnormal muscular development" says Lovell "in a sense is as bad as abnormal accumulation of fat. Both interfere with harmony of organic functions. There should be moderation in exercise, not stress and strain of physique."

Sir James Cantile on a recent occasion said that "physical jerks or squeezes of organs and not bulging muscles is the secret of attaining a good old age. For men past the middle of life, vigorous walking will squeeze the liver."

The microbean clouds.

Physicians have long realised that one of the most important of problems of modern hygiene is securing pure, fresh air, i. e., air polluted neither by solid particles of dust and poisonous gases nor by virulent microbes or germs of disease. *A cough or a sneeze results in an explosive discharge into the atmosphere of a multitude of minute particles of water, not often laden with the deadliest of germs.*

Trillat, the eminent French Scientist, spent much time in studying these "microbean clouds", the effect on these of influences physical as well as chemical as heat, humidity, effect of gravity, radio-activity, chemical composition of the air &c., his object being to discover those laws that govern the formation, spread, fall, the mode of transport and the preservation and multiplication of the offending matter in them.

His most recent notes on the subject relates to the effect of barometric pressure upon these microbean clouds by specially devised instruments. His conclusions are as follows:

(i) The effect of sudden expansion of pressure purifies the atmosphere; with a slow depression, the purification is slow and imperfect. Barometric pressure, he concludes, creates an atmospheric environment favourable to the life of the microbes, further it tends to abstract from the ground infinitesimal traces of poisonous gas.

(ii) The purity of atmosphere accelerates or retards the removal of microbes from the atmosphere.

(iii) The condition of humidity or moisture present in the atmosphere, that is, water-laden atmosphere e. g. that of the sea or sea-breeze purifies the atmosphere quickly.

(iv) The temperature of the atmosphere (e. g. winter in tropics) purifies the atmosphere quickly. In fact the microbes thrive within certain ranges. Winter is more healthy in the tropics as well as the height of summer; similarly, summer is more healthy in the temperate zone as well as the depth of winter. It is the other seasons that are comparatively more unhealthy.

There are various other minor instructions given e. g. the use of a light head-dress to protect the head from the

hot rays of the tropical sun, the instruction to cover the face with a handkerchief or by the hands during sneezing, coughing, yawning, laughing &c. when sitting in company or before an assembly ; (evidently for preventing infection). This brings us to the subject *en passant* of "Vata-Dushan" or "microbic clouds" as some have put it.

B. Brahmacharya or the Regulation of sexual life.

Very minute directions are given on this matter both for men and women. Nobody can deny that sexual abuses and excesses are amongst the most potent factors in inducing premature decay.

Mr. Johnson, president of the National Insurance Co., Chicago, concluded from insurance statistics that long life is due to observance of the following rules:—

- (1) **Marry early**—(age of union : Girl 16 and Man 25). Husbands live longer than bachelors because of their more regular lives.
- (2) **Don't perform violent exercise**—Heart strain is common amongst athletes. All that is necessary is a daily mild regular exercise.
- (3) **Moderate intercourse**—Just adequate for comfort and sensible living, not extra for dissipation.

N. B. These rules are identical with the teaching of Ayurveda.

C. Ritucharya—

It deals with details of food and drink, dress and sleep, exercise and other factors which a person of particular diathesis should observe in the different seasons.

"The Ayurvedic physicians" says Visagratna (in his introduction to the English translation of Sushrut) had elaborately dealt with the regimen and conduct during the different seasons of the year, which, strictly followed, should act as a good prophylactic against epidemics and other diseases. The subject of food had been framed with a more careful regard to keep health, to ward off those sad breakdown in health, which are in most instances the result of unsuitable modes of living."

We will discuss in brief the regimen and conduct recommended in Ayurvedic works for the different seasons of India :

Hemanta (Early winter)—“As the greater quantity of blood goes to the internal organs” (as the skin vessels contract) their activity is increased, in which digestive organs have their share. Food not easily digested in other seasons becomes digestible in this season. If, therefore, insufficient food is taken, there is tissue-waste and increase of Vayu.

Shishir (Late winter)—The cold becomes more intense and “Vayu” and “Kapha” are aggravated. Hence it is desirable to take bitter, pungent and light astringent foods (which check Vayu and Kapha) and avoid fermented drinks (which aggravates Pitta), strong astringents (which aggravate Vayu), sweets (which aggravate Kapha), East wind (which also aggravates Kapha), Excess of liquid food (also aggravates Kapha), cold food or drink of “Sherbut” (which aggravates Kapha).

Basanta (Spring)—The Vayu which is slightly irritated in late winter is relieved, but Kapha is in excess. Hence appetite is impaired and “Kaphaja” diseases are common. It is thus desirable to avoid such procedures as will augment “Kapha.” Therefore avoid things heavy of digestion, cold, acid and sweet food and drink and sleep in day time. It is desirable to take athletic exercises, hot water, bitter, pungent and astringent articles of diet, old wheat and rice (which are easily digestible), deer’s meat, lighter wines prepared by fermenting fruit juice (as check Kapha).

Grishma (Summer)—The Kapha is checked but the nervous system is depressed due to excessive heat of the atmosphere ; there is progressive lassitude, shared by the digestive organs and digestive power is weakened. Take cold, liquid, soothing things, fruit syrups (sherbet) as these check Pitta, (which is aggravated) a little meat soup as an appetizer, but no meat (which aggravates Pitta), ghee (clarified butter), Dahi (milk curd), “Dadhkhani” rice, saline, pungent, sweet and slight acid things (which check Vayu), cold bath, remain indoors in a cold room at day time and sleep in the open air at night, avoid athletic exercises, direct rays of the sun, hot water, wine and sexual connection.

Varsha (Rains)—The lassitude of the body continues and digestion is further weakened. There is acidity if water is

taken in excess ; all the three *doshas* are aggravated, specially "Vayu." Therefore one must be very strict in the choice of food, for diseases are more rampant at this time of the year. Avoid damp room, exercise, sleep in day time, river and other surface water and sun's rays. When weather is particularly bad, take acid or alkaline, soothing, dry, and light things. Ordinarily to check Vayu take acid, salty and fatty things, old rice, meat with fat and condiments, soup of *mug* (*Phaseolus Mungo*), pomegranate juice, whey, wine prepared from old honey, rain water, deep-well water (with no surface pollution) heated and then cooled, old wheat and sweets.

Sharat (Autumn)—Pitta is excited and there is good appetite. Take sweet, light, cold, bitter and other articles which check Pitta, Ghee (clarified butter) with bitters, rice, *mug*-soup, sugar, Embelic myrobalan, Patole (*Iricosanthus dioica*), honey, meat and tank water. Take walking exercises daily, and bird's, deer's, sheep's or rabbit's meat. Water of this season is generally good from all sources, the moon's rays are very pleasant, sky at night is clear and beautiful—all these are best enjoyed during moonlight walks. Avoid vegetable and animal oil (fat), morning dew, "kshira" (boiled and condensed milk), milk curd (dahi), sleep in day time, East wind and strong winds generally, salines, full meal and sun's rays.

Generally make it a habit to take all kinds of food of the six different tastes* but take mostly foods of such tastes as are suitable for the season. Nature is bountiful in providing most fruits and vegetables in each season as are suitable for the season and for the country.

(To be continued)

MASSAGE IN AYURVEDA

BY

A. RAMAN (Malabar)

In Ayurvedic medicine *Samvahana* (संवाहन) or massage is a very efficient form of treatment. Various kinds of massage with or without medicated oils are prescribed in ancient texts. Some of them are described below.

Udvartanam (उद्वर्तनम्)—Skin-rolling usually with creamy and aromatic pastes—The hands of the operator are placed on the limb and moved slowly and gently with slight rolling pressure upwards and downwards. Object—Preservation or restoration of the suppleness and complexion of skin.

Avagharsanam (अवघर्षणम्)—Friction with or without powder—The operator places his hands lightly on the surface and moves them quickly to and fro without pressure. Object—Same as above.

Udveshtanam (उद्वेष्टनम्)—Circular and rolling pressure round the limbs taking a good grasp of the muscles.

Avapidanam—(अवपीडनम्)—The movements in this form of massage are numerous but the principal ones are kneading and deep pressure with the knuckles or finger-tips combined with squeezing and rolling of the muscles en-masse or severally.

Mardanam (मर्दनम्)—Friction on a particular part with slight pressure as in anointing.

Unmardanam (उन्मर्दनम्)—Rolling movements with firm pressure and friction from below upwards.

Anchhanam—(आञ्चनम्)—Milking movements as of a finger to remove swelling and stiffness due to chronic fibrous changes.

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Abhyanga (अभ्यङ्ग)—Light general friction usually used in rubbing of oil all over the head and body and with firm frictional movements ; very often other forms of massage are combined with this anointing process.

Various forms of medicated oil have been recommended and are constantly used by Ayurvedic physicians. Bengal and Mala-bar are famous for these preparations and their effective usage. I had the privilege of seeing these medicated oils externally used both under my venerable master Mahamahopadhyaya Kaviraj Gananath Sen, Saraswati, M.A., L.M.S., of Calcutta and in my native province with wonderful results. I take this opportunity of presenting the description of a particular method prevalent in my country known as "Pizhinchu pakarcha" or general oil-bath and massage (*Vide adjoining illustration*).

This treatment requires the following arrangements :

1. One suitable well ventilated spacious room.
2. One *Taila Droni* or a piece of large thick wooden board with raised borders so as not to let the oil run out, one end of the board being scooped and narrower in order to support the patient's head.
3. A particular oil prepared according to the standard recipes for the patient's particular disease.
4. Four *Masseuses*. First of all the patient is laid on his back in the *Taila-Droni* and sufficient oil is applied all over the body and the head ; then the masseuses begin skin-rolling and friction, rolling, pressing and squeezing of the muscles, general friction with pressure and milking movements of the limbs &c. systematically. This practice is continued for some days according to the instructions of the physician. The peculiarity of the treatment is that on the first day the patient is treated for one hour ; then the space of time occupied is increased gradually up to two hours by the middle of the prescribed period and then the duration is decreased gradually to one hour on the last day. As for instance, if the prescribed period is thirty days then on the 1st day begin with one hour's treatment and increase it day by day so that on the 15th day the space of time will be two hours. After this decrease the space gradually, so that on the 30th day

it may come to one hour as on the first day. This period being over the patient is instructed to smear the oil daily over his body himself without lying in the oil bath.

N. B.—In case of healthy persons the treatment is the same as described above except that ordinary oil is sometimes used in place of medicated oil.

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“अभ्यङ्गपूर्वमुपनाहनोपवेष्टनोन्मर्दनपरिषेकाङ्गसंवाहनपीडनानीति” (अष्टाङ्गसंग्रह० दोषोपक्रमणीपाठ्याय) ।

“उद्वेष्टनोन्मर्दन-परिषेकावगाहन-संवाहनावपीडन-वित्तासन-विस्मापन-विस्मारणानि,” इति (चरक० चिमाने पष्ठाध्याये) ।

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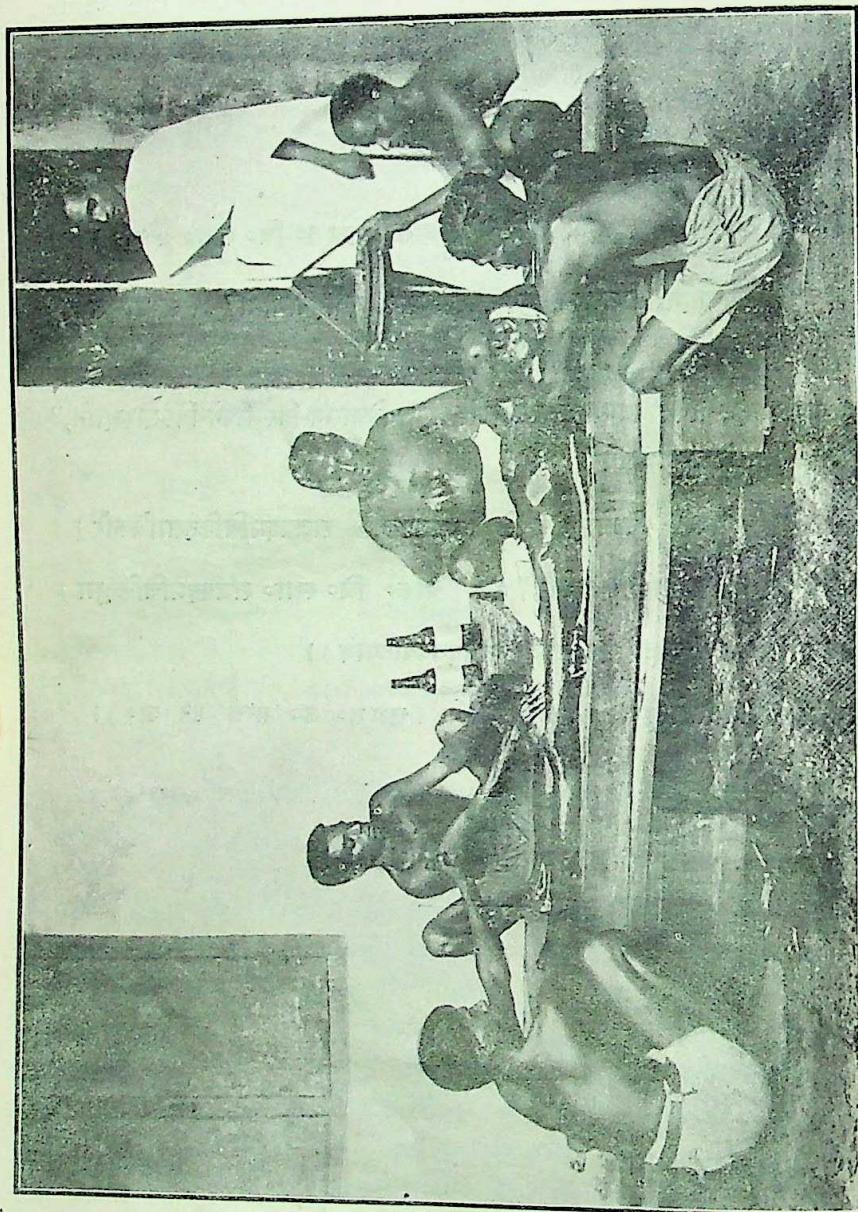
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Method of General Oil-Bath and massage practised in Malabar

EDITORIAL

Research in Indigenous Drugs.

Research in indigenous drugs is a fascinating subject. Of late, we have heard a good deal about it but the work done so far in the various laboratories of India seems to be rather meagre though not unpromising. We have been often told that the difficulties are enormous : the chemist takes about six months—in some cases even a year—over each drug and when the composition is determined, the pharmacological and clinical work takes no less a period. And yet after so much din and labour, the result may not be commensurate with the amount of work done. What is this due to ? To the drugs being inert or the technique being in-efficient or to some other reason ? It is a question one cannot pass over easily ; as it involves the labours of some of the best talents in the field, it cannot be judged lightly. We know all research work is tedious and the reward is often belated. Yet nobody would denies that a little introspection now and then over the methods of work is desirable.

In the interest of the advancement of science, a word of advice by way of constructive criticism may not be out of place here. In our opinion, as we have already said elsewhere, researches in indigenous drugs appear to have been undertaken on rather insecure foundations : First, it is supposed that most indigenous drugs are highly potent remedies. Secondly, it is expected that by the usual methods of pharmaceutical research, we are likely to find out valuable clues to clinical panacea. Besides, the importance attached to the chemistry of drugs appears to our

humble mind to be greatly exaggerated. The limitations of Chemistry and Pharmacology seem to be often forgotten and no wonder that the hopes raised are often frustrated after heaps of admirable pains-taking work are piled to the credit of the workers.

The fact is that most herbs, indigenous or foreign, are poor in active principles and only a few chosen ones are active pharmacologically. Nevertheless many of these are active therapeutic agents even though little can be proved in the laboratory. There are others too strong or drastic in effect to be medicinally useful (unless 'corrected' or mitigated) in the present state of our knowledge. There are still others (e. g. Emetine) the effect of which on diseased conditions is selective and specific even in minute doses. Only clinical trials on right lines—not pharmacological experiments—reveal their secrets to us. To select a drug for pharmacological and clinical research therefore is a task which requires the guidance not only of books but also of experienced clinicians. To take a drug at random from the Ayurvedic store-house and work upon it for a year or so and then reject it as "inert" or confirm it as, say, a 'mild diuretic' or a 'feeble cardiac stimulant' is doing justice neither to the drug nor to the worker himself. It means waste of labour and public funds in no small measure. Every sensible worker, we are sure, would be careful to avoid this false step.

Here is a list of certain indigenous drugs which may be taken up for research work with the prospect of satisfactory results: *Apamarga* (*Achyrenthes Aspera*), the four kinds of *Bala* (*Sida*) used by the Ayurvedists, *Brahmi* (*Gratiola Moneriera*), the ten drugs of the *Dasha-moola* group, *Nirgundi* (*Vitex Negundo*), *Bhargi* (*Siphonanthus Indica*), *Bhallataka* (*Semicarpus Anacardium*), *Rohitaka* (*Andersonia*

Rohitaka), *Bridhdadara* (*Lettsomia Nervosa*), *Arjuna* (*Terminalia Arjuna*), *Sireesha* (*Mimosa Sireesha*), *Shilajatu* (a bituminous substance), etc.

In the mineral world too, the Ayurvedic practitioner uses several drugs the effects of which are very little known to his western colleagues although the substances are well-known to the chemist. Some of these are : the black and red Sulphides of Mercury ; various preparations of Mica, Tin and Iron ; Zinc Carbonate ; Sulphide of Antimony ; fine impalpable powder of 'reduced' Gold ; Copper and Silver Sulphides, etc. Therapeutically, they have been found highly active though in the test-tube, some of them may be found to be quite insoluble. Wisdom would lie not in discarding them as "Insoluble—therefore inactive" but in finding the true key of their undoubted action *in vivo*."

The catalogue given here is by no means exhaustive and with the assistance of an experienced practitioner of Ayurvedic medicine, many other names of useful drugs may be added to the list. It must be remembered that experiments with drugs used only as adjuvants in Ayurvedic medicine cannot lead to brilliant results and the experimenter deserves the blame if he makes a wrong selection or gropes in the dark when the regular assistance of an efficient Ayurvedist can admit a flood of light.

There is another field of research which is not less interesting. It is the study of the action of certain drugs like Aconite, Croton seeds, etc. in the 'corrected' 'modified' form. This correction or modification usually called—'*Shodhana*'—by the Ayurvedist—(often wrongly translated as 'purification')—is a process of modifying the chemical or physical and physiological action of the drugs by boiling or

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soaking them in solutions of Urea, Lime-water, Lemon-juice, etc.

With the aid of his worthy colleagues Dr. Kartick Chandra Bose, M. B. and Dr. Girindra Shekhar Bose, M. Sc., M. B., the editor once experimented with 'corrected' Aconite, having as a control an extract of the crude drug. An aqueous extract of this modified aconite acted as a cardiac stimulant by direct application on the frog's and rabbit's heart and by internal administration on the living human subject whilst the control preparation acted as a powerful depressant in the usual way. Unfortunately, the writer has not been able to complete his research in this subject but the lesson of the experiments was never to be forgotten.

We therefore ask our colleagues doing research work in indigenous drugs to pause and think whether they should not improve their methods; whether selection of drugs cannot be made with more circumspection in the future and whether the regular co-operation of Ayurvedists may not be sought for greater success of their work. Let not the chemist's procrastination retard their progress. In our humble opinion experiments with aqueous extracts of whole drugs should be dependend upon as reliable clues to new realms of light and clinical investigation may be started earlier than now,—the chemist's findings being reserved for minute investigation at a later stage. In future, experiments on healthy and diseased human beings should also be more in vogue than now for the success of our undertaking. Above all, let us speed our work after the progress of the world. Already we Indians have the un-enviable reputation of doing the smallest possible work in the longest possible time. Let us not offer more examples for that testimony.

We cannot conclude this discourse however without expressing a word of high appreciation for the good work done in this connection by Major R. N. Chopra of the Calcutta School of Tropical Medicine and Dr. Vaman Desai, M. D. of Bombay. Working in collaboration with Major Acton, Dr. B. N. Ghose and Capt. P. De, Major Chopra has given us some very highly interesting and useful informations regarding such drugs as Punarnava, Arjuna, Kustha, Indian Santonin, etc. We think his researches will leave a durable impression on the future history of Ayurveda. Dr. Desai of Bombay has also made excellent botanical and clinical investigations with indigenous drugs and made excellent therapeutic classificatons. He has stored a mass of clinical information not available elsewhere as he has been practically an Ayurvedic practitioner using these drugs in a way all his own. We had the honour of listening to his demonstrations at Poona and were charmed with them. His long-expected book, however, has not yet seen the light of day. Dr. Koman of Madras has also dealt with indigenous drugs, recording some of his clinical experiences but has unfortunately judged them in a hurried and prejudiced manner. We hope we shall be pardoned for adding that a good deal more is expected from such workers. How we wish we had more of real workers with greater facilities for carrying on research work in indigenous drugs on a larger scale and with greater enthusiasm. The Government and the public will be spending their money in the most humane cause if such work is encouraged and expedited. But we venture to suggest that undivided attention of the worker is the *sine qua non* for real success in this line of work. Not much result can be expected when research has to be done as a side-issue. Naturally, therefore, we eagerly await the day when a well-equipped pharmacological laboratory and hospital with a band of well-trained and enthusiastic workers will be set apart under the future Ayurvedic General Council to carry on the work of research in Indigenous drugs exclusively with a view to reach the goal we are all endeavouring to attain.

MEDICAL JURISPRUDENCE IN AYURVEDA

BY

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(Contd. from Page 207.)

II

Questions affecting the Legal Rights of Individuals.

The questions which affect the legal rights of individuals are :—

I. Personal Identity.

The Medical man may be called upon to establish the personal identity of an individual in both civil and criminal cases such as assault, rape, murder, claiming properties or pension, etc. It might be imagined that there is little difficulty in identifying an individual and there is no danger of mistaking one person for another. But it should be remembered that mistakes as to the identity of individuals are easily made and some well-known cases have demonstrated that it is sometimes extremely difficult to establish the identity of individuals after long absence or exposure to foreign climates, etc. Our readers will remember the well-known cases of Protap Chand (better known as Jal Protapchand of Burdwan and the present Kumar of Bhowal whose identities have never been established.

2. Exemption from Public duties :—

Medical men are frequently consulted by persons unwilling to discharge certain public or state duties, acting as Jurymen or assessors or attending the Court as witnesses at a trial. In other countries where there is compulsory military training, the Medical man may be called upon to give his opinion whether a particular person is able or in a fit condition to undergo the training and enter the service. In all these cases the medical man should remember that the state expects that he should give an honest and fearless opinion whether or not the person in question is able to discharge these duties without serious risk to his life or health.

3. Feigned diseases—"Malingering":—

These require much skill and acuteness of observation in order to detect the imposture. It is sometimes extremely difficult to determine whether or not a person is suffering from actual disease or malingering.

4. Insanity :—

The medical man may be called upon to give evidence in any civil or criminal court as to the sanity or insanity of an individual ; he may be required to detect feigned insanity in criminals after committing a crime, especially murder, in order to escape punishment ; and also he may have to sign certificates of unsoundness of mind with the object of providing for the safe custody and proper treatment of a lunatic. For these reasons the medical man ought to be familiar with the chief forms of insanity and he should be able to distinguish and treat the different forms of the disease properly.

The principal questions which arise in connection with insanity are :—(1) Is the person of sound or unsound mind ? (2) Is the person able to manage his property ? (3) Is the person able to execute a will or contract a marriage ? and (4) Is the person dangerous to others ?

5. Marriage :—

In India especially amongst the Hindu community, questions in connection with marriage do not often come before the Law courts because it is a religious bond and not a mere contract as in other countries. According to the law of England marriage is a contract which may be declared null and void by the Court under the following circumstances, *vis* :—(1) where the girl is under twelve or the boy under fourteen years of age ; (2) where either of the parties is incapable of fulfilling its terms, *i.e.*, of consummating the marriage ; (3) where either of the parties was of unsound mind at the time of marriage ; and (4) concealment of pregnancy at the time of marriage.

6. Impotence and Sterility :—

The question of impotency for sexual intercourse arises in connection with cases of (1) rape, where impotence is or may be pleaded by the accused in his defence ; (2) in suits for divorce to nullify the marriage contract ; and (3) in cases of contested

legitimacy, where an individual is alleged to be an illegitimate or supposititious child and the right to inherit a property is disputed.

7. Pregnancy :—

The question of pregnancy in relation to legal medicine forms one of the most difficult subjects for investigation to the medical jurist and presents one of the widest fields for medico-legal evidence. The medical man may be called upon to examine a woman and ascertain whether or not pregnancy exists and to determine :—

(a) Whether a capital sentence should be carried out. Women, both married and unmarried, sentenced to death, may state that they are pregnant in order to delay their execution, or to obtain mitigation of the sentence.

(b) In seduction cases if the unmarried tried to enforce marriage on their seducers or charge damages or extort money by blackmailing from the alleged father.

In a case of divorce the woman may state that she is pregnant in order to increase her allowance.

(c) Whether or not it is probable that an heir will be born to an estate. After the death of the husband leaving an estate, the widow may feign pregnancy so as to defraud the rightful heir by producing a supposititious child.

(d) Whether or not criminal abortion has been effected. Criminal abortion is unlawful expulsion of the foetus at any period before the full term. This crime is very prevalent in all parts of the globe and is practised generally by the unmarried and the widow and sometimes by married women, when not living with their husbands, to avoid disgrace.

8. Delivery :—

Many important medico-legal questions may arise in connection with delivery. It may be concealed or pretended. Delivery may be concealed by the unmarried and the widow with a view to destroy the child and hide shame; and it may be pretended in order to produce a supposititious child for the purpose of getting hold of an estate by depriving the rightful heir.

9. Birth in relation to Civil Law :—

Medico-legal questions in connection with the birth of children arise when the right to inherit a property is in dispute. In

order to inherit a property it must be proved that the infant was born alive that is to say that the child had an independent existence apart from its mother—no matter how transient its life had been. "The child need not have been viable, but if it has survived even a few seconds, and has been heard by one or more witnesses to cry, seen to move its limbs, or even if pulsations of the heart or arteries have been observed, these are proofs of its having been born alive."

In cases of disputed inheritance, when it has been proved that the child was born alive or 'live birth' has been proved, the other medico-legal questions which may arise are:—(1) that the child is not a legitimate one; and (2) that it is a supposititious child.

Only legitimate children are regarded by law as the children of their father and they have the right to inherit their fathers' property.

Legitimate children are those who are born or begotten during the existence of a valid marriage between their parents. In cases of disputed inheritance the question arises that the claimant is not a legitimate child. In these cases it must be proved that the reputed father of the child is either (a) impotent or (b) that the parties to the marriage (*i.e.*, the parents) had no access to each other at the time when the child was or could have been begotten.

Supposititious child :—

A woman may produce a child who has never been delivered of a viable child for purposes of succession to an estate or a male child may be substituted for a female child. In these cases the medical man has to determine whether the woman has ever been pregnant and whether she shows signs of ever having been delivered of a viable child.

10. Insurance and Longevity :—

Medical men are often required to examine candidates for insuring their lives. The Life Insurance Companies calculate the probable longevity of the individual on the report of the medical examiner. Here the duty of the medical examiner is to make a thorough examination of the various systems of the body of the applicant and detect any unsatisfactory condition which may directly or indirectly shorten his life.

Medical men are also required to certify in cases of death of the assured. The principal question which arises in connection with the reported death of the assured is that of identity, that is, "Is this body that of the assured"? The medical man should do well to remember the fact that occasionally an assured tries to defraud an Insurance Company by disappearing and spreading the rumour that he is dead.

(To be continued.)

ANUPAN IN AYURVEDA.

BY
BHARADWAJA.

ANUPAN—A NECESSITY.

In administering Ayurvedic medicines, specially pills, powders, medicated oils, medicated ghritas, reduced metals (Dhatu-Vasmas) and Makradhwaja, etc., the help of *Anupana* or adjuncts is required and it will not be out of place if we devote some space to the discussion of the subject for the elucidation of our readers.

यथा जलगतं तैलं क्षणेनैव प्रसर्पति

तथा भैषज्यमङ्गेसु प्रसर्पत्यनुपानतः ।

"As oil when dropped on water immediately distributes itself on its entire surface, so the virtue of a medicine when taken with the (prescribed) *Anupana* or vehicle manifests itself in the system within a short time."

The *Aristas* and *Asavas* being liquids do not require any special vehicles.

In these days of imported compressed tablets and machine-made pills it is time for us to ponder over the question of the best process of administering medicines to achieve the best results and whether it is justified to sacrifice utility and efficiency at the altar of convenience. The western scientists even admit now the value of administering tablets after triturating them in stone mortar with honey or dissolving in water or with some other suitable adjuncts.

The necessity and utility of *Anupana* is well described in the following two couplets :—

रोचनं वृच्छणं सूक्ष्मं दोषघ्नं वातभेदनम्,
तर्पनं मार्दवकरं अमलमङ्गरं परम्,
दीपनं दोषशमनं पिपासानाशनं परम्,
बलवर्गाकरं हृदयमनुपानं प्रशंस्यते ॥

"That *Anupana* is eulogised and prescribed which removes disinclination to food, increases flesh and semen, removes the *Doshas*, re-establishes the disintegrated Vayu is nourishing, induces lightness of the system, removes prostration, increases

digestion, cures the *doshas* of Vayu, Pittam and Kapham, etc., removes thirst, induces strength and health and invigorates the heart."

DETERMINATION OF DOSES OF ANUPANA.

The proper dosage of *Anupana* is determined according to the age of the patient. Three periods are generally considered, viz., childhood, middle age and old age. (i) From birth to 15th year is considered as childhood, this in turn being divided into two periods : (a) infancy, of which the first year is considered as the breast-fed (दृश्मोजी) period and after that to the second year of life is called the period of दृग्धान्नमोजी, i.e., when the infant's food consists of milk and boiled rice, and (b) childhood proper, i.e., the अन्नमोजी period, when a mixed diet is tolerated. (ii) From 16th to the 70th year is the period called middle age and (iii) The last period of life after 70 is called old age.

" I. The doses of *Anupana* for children and the old people are almost the same.

Powders :—from 2 grains to 6 grains.

Fresh expressed juice :—15 drops to 60 drops. But lesser doses of articles that are strong in action should be prescribed.

For the middle aged :—

Powders :—12 grains to 24 grains or 36 grains.

Fresh expressed juice :—from $\frac{1}{2}$ a tola to 2 tolas.

Further it is enjoined to administer small doses according to the bearing capacity of the patient ; especially minimum doses should be resorted to in pregnancy, infant's diseases, in vomiting, cholera, typhoid and epilepsy. In these diseases particular attention should be paid to the consideration of diet, *anupana* and the proper remedy.

In poisoning, insanity, erysipelas and tumour the maximum doses should be thought of.

The doses of any *anupana* should further be determined according to the sufficiency or deficiency of the Agni or inherent bearing capability or vitality of the subject. Those having sufficient vitality should be given the maximum dose of both the indicated remedy and its *Anupana* with the maximum diet. Those with a deficient vitality should be given the minimum dose of the remedy with its *anupana* and diet.

There are certain other factors which should not be overlooked in this connection. Those who are habitual takers of medicine

can bear the highest doses of *anupána*, e. g., habitual users of purgatives require the highest doses to move their bowels. But those who are not accustomed to take medicines on the slightest provoking cause are advised to take the minimum doses of the indicated remedy and *anupána* when necessity demands.

ANUPANA WITH REGARD TO DOSHAS.

The subject with the increased indication of *Vayu* and *Pittam* in him, when suffering from a disturbance due to increased *Kapham* and its disintegrating influence should be carefully treated in the selection of the proper *anupana* and should be given the minimum doses required to remove the complaint.

If a patient with a constitution in which *Pittam* and *Kapham* predominate suffer from a disease arising out of the disintegration of *Vayu* or *Pittam* and if the prognosis shows the tendency to *Vayu* and *Pittam* it will then be justified to increase the dose of the indicated medicine with its *anupana* for the amelioration of the dysfunctionating influence of *Vayu* and *Pittam*.

The doses of the remedy and its *anupana* should also be determined with an eye to the nature, virtue and potency of their constituents, e. g., non-poisonous drugs and those mild in effect may be used in large doses. Remedies containing poisonous or highly potent drugs should be prescribed very carefully and in minimum doses.

(To be continued.)

Reviews & Notices of Books.

Rasatarangini :—By Sadananda Sharma, Lahore. Published by Kaviraj Narendra Nath Mittra, Lahore, Mittra Oushadhalaya. Pp. 377, Cloth bound. Price. Rs. 5/- only.

This is a model volume of '*Rasashástra*' written in easy and classical Sanskrit, adapted for the use of students. It may be called the First National Dispensatory of *Rasas*, containing as it does a summary of the *Rasatantras* of the ancient Rishis, besides the fullest and latest information on pharmacy, Materia Medica and therapeutics of the metals that are so largely used in the preparation of Ayurvedic medicines.

The author has presented the subject matter in a terse yet comprehensive manner, which will be of great use to the students for whom it is designed. Sanskrit names, synonyms, sources, composition, and methods of preparing the drugs have received the author's careful attention. A special feature of the volume is that the author has given particular attention to the methods of administration of drugs, and their average dose for adults, in accordance with the usage of celebrated modern physicians of India.

NOTES ON THE USES OF AGASTI

BY

KAVIRAJ A. C. BISHARAD, VISHAGBHUSAN,
M. R. A. S. (Lond.)

—o—

SYNONYMS :

SANSKRIT :—*Vaka, Agastya, Bangasena, Munipushpa, Muni-druma, Kumbhayari, Vakapushpa, Dirghaphalaka, Shighrapushpa and Branári.*

LATIN :—*Sebania Grandiflora.*

BENGALI :—*Vaka.*

HINDI :—*Hathia, Hadaga, Agastoya.*

TELEGU :—*Aneesay, Abisi.*

MARHATTI :—*Agasta, Hadaga.*

GUJRATI :—*Agathiyo.*

CANARESE :—*Agasedhamaranu.*

TAMIL :—*Argati.*

CEYLON :—*Kataru Murunga.*

Habitat : This tree abounds in all parts Bengal and its flowers are much in favour as offering to the gods. The tree grows within a short time and bears beautiful flowers. Height is about 30 feet. The trunk is straight, about 12 to 16 feet in length. The branches are lightly spread and grows asunder. The leaves are in pairs attached to a long stem, containing 4 to 6 pairs in each. The flowers are of white, yellow, blue, or red colour. The fruits are very long and thick like quill pen and contracted between the seeds.

Parts used : Flowers, leaves, fruits and root bark.

Chemical Composition : According to the late Dr. Kanailal De, the bark contains Tannin and Gum (a red gum resembling Bengal Kino). According to R. N. Khory the root is expectorant and is given with honey in catarrh and the bark is an astringent bitter tonic. The juice of the leaves and flowers is blown up the nostrils in nasal catarrh and head-ache with relief. A paste of the root with stramoniun is applied to painful swellings.

Referring to the Ayurveda texts we find in *Bhávaprokásha* :-

अगस्तिः पित्तकफजिञ्चातुर्धकहरो हिमः
रुच वातकस्तक्तः प्रतिश्याय निवारणः ।

"Agasti has its action on the system in reducing Pittam and Kapham, is a eurer of quotidian fever, cooling, dry and bitter in taste, induces Váyu and is a preventive of catarrh".

According to Rájanighantu, Agasti is further effective in the treatment of Tridoshas. In Sushruta, Sutrasthanam we find it recommended in the treatment of Nyctalopia.

अगस्ति नातिशीतोष्णं

नक्ताम्बानां प्रशस्यते ।

Bagbhata also advises the administration of the following in the same disease :—

भृष्टं घृतं कुम्भयोनेः

पत्रै पाने च पूजितम् ।

The leaves of *Agasti* made into a paste should be treated in boiled ghee which should be administered to those suffering from Nyctalopia. In epileptic fits of the children, a snuff of the fresh expressed juice of the leaves of Agasti is recommended. —*Háritasamhitá*.

In Epilepsy of elderly people, a preparation made of Agasti leaves and round pepper well ground with cow's urine, and used as snuff, is recommended as a certain cure :

अगस्तिपत्र मरिचं मूळेन परिपोषितम्

नस्ये ग्रस्तमपस्मारं हन्ति शोष्णं नरस्य तु । —हारीत-संहिता ।

Bhabaprakasa further recommends it as an external application of much value in Bát-rakta (वातरक्त) or leprous eruptions.

अगस्तिपुष्पं चूर्णेन माहिषं जनयेद्धिः

तदुथनवनोतेन देहजं सफुटनं जयेत् ॥

"The powdered flowers should be well mixed with buffalo's milk from which curd should thereafter be prepared. Butter prepared from this curd is highly efficacious in curing eruptions on the body."

Brihannirghantukára eulogises the merits of "सुनिश्ची" or the fruits of Agasti in the following terms :—

सुनिश्ची सरा प्रोक्ता वुड्डिदारुचिदा लघुः ।

पाककाले तु मधुरा तिक्तचैव स्मृतिप्रदा ॥

विदोषशूलकफहृत् पाण्डुरोग विषापनुत् ।

शोषगुलमहरा प्रोक्ता सपका रक्तपित्तला ॥

"The fruits of Agasti are described as nourishing, appetising and light. During ripening period it is sweet, bitter, and an invigorator of memory and a corrector of *Tridosha*. It is further a curative

agent in colic, jaundice and poisoning. The ripened fruits are useful in sinus and tumourous growths."

Now we will proceed to deal with its properties as we have found in our practice. The juice of the flowers is efficacious in leucorrhœa. The flowers fried in ghee may also be given as an useful and nourishing diet in the same disease. The fruits and flowers are largely eaten by villagers in the form of curries.

There is no doubt about its superior efficacy as an ideal expectorant. We have largely used it in bronchitis, broncho-pneumonia and pneumonia with marvellous results. In a case of broncho-pneumonia the administration of the flowers in decoction induced vomiting within a quarter of an hour and the vomit consisted of a jelly-like mass of phlegm weighing about half a pound and immediately the patient was relieved of the distressing cough and choking sensation.

I generally administer the following decoction alone with honey or as an *anupana* or adjunct to some other indicated remedy in the treatment of phlegmatic conditions whether attended with fever or not :—

Vaka flowers	...	...	4 tolas.
(or green top leaves, if flowers are not available)			
Vásaka (Adhatodá) leaves	...	4 tolas.	
Total	...	8 tolas.	

Water 16 oz., boil on gentle fire till reduced to 8 oz.; to be given in two equal doses, mixed with a little honey; repeat thrice or four times daily, as required.

The above can be administered to infants even, but in smaller doses, according to the age and strength of the patient.

I have used the following prescription most successfully as an urethral injection in gonorrhœa in the male and leucorrhœa in the female :—

The fresh expressed juice of raw turmeric one part and juice of Baka flower one part, lukeworm water two parts, mix well, strain through a clean linen and then administer.

If fresh flowers are not available, a mild decoction of dry turmeric and the powdered flowers or the fresh leaves of Agasti may be used with the same result.

I would invite our readers to try Agasti and report the result through the medium of this journal.

MADHAVA ACHARYA

BY

GIRINDRA NATH MUKHOPADHYAYA, BHISAGACHARYA,

B.A., M.D., F.A.S.B.

Bhowanipore, Calcutta.

Madhava Acarya. 14th Century A. D.

We have already described the personal history of Madhava-Acarya, brother of Sayana, who lived in the 14th century A.D. (see December number of this Journal. PP. 208-9). In the Sarvadarsana Samgraha, Chapter IX, we find the 'Rasesvara Darsana' or the 'Philosophy of the Mercurial System' described. As the book has been translated by Professors Cowell and Gough for Trübner's Oriental Series, 1882, under the title 'Sarva-Darasana-Samgraha' or 'Review of the different Schools of Hindu Philosophy', the reader is requested to consult its pages.

There were many works on Treatment written by physicians according to the arrangement of Madhava Nidana. The Vrinda Madhava and Cakradatta are well-known. Another book is known as Cikitsa Darpana. It is a work on the treatment of maladies, by an unknown author. It closely follows Madhava's Rugviniscaya.

Mss. : I. O. : 2703.

A. M. : P. 144.

Begins : अथ जिह्वापरोक्ता वक्ष्यते ॥

जिह्वा पौता खरस्यर्गं स्फुटिता तौब्रमारुते ।

रक्ता श्यावा भवेत् पित्ते कफे शुभ्रा द्रवा घना ॥

Ends : इति चिकित्सादर्पणे विस्ताधिकारः ॥

चरणौ कर्कटस्यापि गोक्कौरेण प्रपाचयेत् ।

धनतां (? घनता) जायते तस्मिन् रात्रौ चरणलेपनात् ॥

दन्तानां कर्मडौ (? कुर्मलं) हन्ति सत्यं सत्यं च पार्वति ।

क्षणवर्णश्वेतपुङ्क्ष्य समा (?) च कचवेष्टिता

तां वद्वा च गले दन्तकर्मडौ हन्ति मानवः ॥

चिकित्सादर्पणश्वायं समाप्तः ।

"A Cikitsadarpana by Divodasa, is mentioned in the Bramha-vaiyarta Purana, Aufrecht, Cat. Bodl., P. 22a." But the book referred to here was Cikitsadarsana and not Cikitsadarpana.

MADHAVA 1600 A.D.

Another Madhava is known to have been the author of a treatise on the preparation of different kinds of food for invalids.

His work :

1. Pakavali : Treats of the preparations of the different kinds of confections and alimentary substances. It contains pharmaceutical recipes, with directions for their use in different maladies.

Mss. : I. O. : 2728, 2729.

A. M. : p. 139.

I O., 2728 :

Begins : अथ पाकावलौ लिखते ॥

कपिकलुः प्रस्थमेकं चौरदोणे विप्रातयेत् ।

ष्टतस्य कुडवं (!) दद्यात् शिताद्विप्रस्थमादिशेत् ॥

Ends : इति विजयापकः ॥ इति श्रीपाकाञ्चाय समाप्तम् ॥

I. O., 2729 :

Begins : अथ लिवङ्गादि (लिवङ्गादि) पाक [:] लिखते ।

प्रस्थार्धः देवकुसुमं गव्यं दुर्घं च मानकं ।

ष्टतप्रस्तार्धं संयुक्तं शर्कराप्रस्तमेव च ॥

शनैर्मनिपाचितं चूर्णं तानि ज्ञपेयेत् (!) ।

एतत् चूर्णप्रदातव्या नौलोत्पलं एलचन्दनं (!) ॥

Ends : इति अगस्ताहरीतकौपाकः ॥

The successive pakas are named after the principal ingredient, many of which appear in a Persian-Hindusthani form.

MADHAVA KAVIRAJA.

He belonged to Naritagrama, District Mandalaghata.

His work :

1. Mugdhabodha : a treatise on medicine by Madhava Kaviraja.

Mss. : I. O. : 2680.

A.M. : p. 137.

Begins : गोपीनाथपदाभ्योजं चित्रं गाङ्गयः करं ।
भक्तचित्रार्कसुखदं बन्दे किन्तुषनाशनं ॥
यत् प्रसिद्धं तदलापि यद्यद्रोगेषु यौगिकं ।
श्रीषधानि च पथ्यानि प्रमाणानि बहुनि च ॥
यदुक्तं वाभटे तन्वे सुश्रुते वैद्यमागरे ।
अन्यैश्च बहुभिः सिद्ध्यदगदुक्तं विलोक्य तत् ॥
तत्र यदगदसाध्यं स्याद् यदगदेषु दुर्लभम् ।
तत्तस्वर्वं परित्यज्य सारभूतं मया कृतम् ॥
मुग्धवोधमहं कुर्वे वैद्यशास्त्रमहाख्यधी ।
संगट्ह्य सर्वसारच्च वैद्यः श्रीमाधवः कविः ॥

Ends : कुद्रोगेषु सर्वेषु नानारोगानुकारिषु ।
दोषान्दुष्पानबस्याच्च निरोक्त्र मतिमान् भिषक् ॥
तस्य तस्य च रोगस्य पथ्यापथ्यानि कारयेत् ॥
यथादोशं यथादूषं यथावस्थं च कारयेत् ॥
इति पथ्यापथ्यं ॥ इति कुद्रोगचिकित्सा समाप्ता ॥ इति अमाधव
कविराजकृतायम् मुग्धवोधाख्यग्रायाम् ज्वरादिगेगचिकित्सा समाप्ता ॥

He gives a list of twenty two authorities of which the following may be mentioned :—

- | | |
|---------------------|----------------------|
| 1. Gahananatha | 9. Mahasena |
| 2. Candranatha | 10. Mahesvara |
| 3. Caraka | 11. Ratnavali. |
| 4. Tantra | 12. Vabhata. |
| 5. Tantranatha | 13. Vriddha-Vabhata. |
| 6. Nidana (Madhava) | 14. Vaidya Sagara |
| 7. Patanjala | 15. Sara Kaumudi. |
| 8. Bhaskara | 16. Susruta. |

This list is followed by the statement :

एतेषां मतमालोच्य गाङ्गलघाटीयनारिटयामनिबासिश्रीमाधव
कविकृतमिदं ॥

SRI MADHAVA. 1713 to 1734 A.D.

He lived in Benares. He is the same author as Madhava Upadhyaya Dvijavarya, mentioned hereafter.

His work :

I. Ayurveda Prakasa : a tretise on the uses and preparations of vegetable and mineral drugs.

Madhava Upadhyaya Dvijavarya.

He was a resident of Benares belonging to the Sarasvata-kula of Saurashtra.

His work :

I. Ayurveda Prakasa : a complete system of medicine. By Mādhava.

Mss : I. O. : 2696 (1786 A. D.), 2697 (Incomplete).

A. M. : P. 155.

Contents : The first three chapters treat of the hygienic rules to be observed in the intercourse of the two sexes with a view to obtaining offspring. Another section treats of the preparation of mercury and other mineral substances for medicinal purposes.

Begins : हरकोपानलेनैव भस्मोभूयाकरोत् स्मरः ।

अर्धनारीश्वरोर् हि यस्य तस्मै नमोऽस्तुते ॥

सम्यगाराधितः कामः सुगम्यकुसुमादिभिः ।

बिदधाति वरस्त्रोणां मानयन्ति बिसोचनं ॥

अनेककामशास्त्राणां सारमाक्षण्य यत्रतः ।

बालवुग्रत्पत्तये स्त्रौणां चित्तसंतोषणाय च ॥

कामशास्त्रं प्रबच्छामि नातिसंचिप्तबिश्वतं ।

आयुर्वेदागमे तद्विद्विना वृथना (? ते) वृथा ॥

कामशास्त्रस्य तत्त्वज्ञा जायंते सुन्दरोप्रियाः ।

क्रामशास्त्रमजानन्तो रमन्ते पशुबत् स्त्रियं ॥

नानानिवन्ध्याः सुरतोपचारैः क्रौड़ासुखं जन्मफलं नराणां ।

किं सौरभेयौशतमध्यवर्ती वृषोऽपि संयोगसुखं न भुक्ते ॥

खनारीरक्षणं पुंसां परनार्यनुरंजनं ।

वस्त्रमेदेङ्गितज्ञानमेतत्फलमुदाहृतं ॥

सुक्तिमत्यपिकारणमेतच्छास्त्रमितग्रह ।

Ends : चौरं पौत्रा रमेद्रामां कामव्याकुलितानिृतां ।
 मुखस्थां धारयेऽस्ते (?) तदावौर्यं न मुच्छति ॥

इति वौर्यरोधिनी गुटिका ॥

इति सौराष्ट्रदेशोऽब्दकुलाचतंस

उपाध्वायहिजवर्थमाधवविरचितं

अयुर्ब्दद [प्र] काशे उपशारोरके स्त्रीलक्षणसेवनादिकामशास्त्र विषय-
 निरूपणाध्यायः ॥ संबत् १८४३ ॥

MADHAVA PANDITA.

He belonged to Sribatsagotra and Apastamba Sutra.

His work :

1. Gadāsanjivani : On the diagnosis and treatment of maladies : by Mādhava Pandita of Srīvatsagōtra and Apastambasūtra. In the begining he explains in two stanzas the subject-matter of the work which is said to consist of eight topics.

It contains the following topics :—

१ सर्वरोगनिदान	... Diseases in general
२ नाडौनिदान	... Pulse.
३ दोषत्रय प्रकरण	... Three dosas or humours.
४ अशौतिवात निदान	... Diseases caused by Vayu.
५ पैत्यरोग निदान	... Diseases caused by Bile.
६ श्वेषरोग निदान	... Diseases caused by Phlegm.
७ रोगच्चर निदान	... Fever.
८ ज्ययरोग निदान	... Phthisis
९ ग्रहिणीनिदान	... Chronic Diarrhoea.
१० मेहनिदान	... Disease of Urine.
११ विषुच्यजौर्णनिदान	... Cholera and Indigestion.

Mss : GOML Vol. xxiii. 13114-17.

Beginning :

श्रीनाथं पार्वतीनाथं वाणीनाथं सरस्वतो (म्) ।
 दुर्गावटुकए (हे) रम्बान् नमस्ते (समस्तान्) सन्नमाभ्यहम् ॥

उद्देश कालः

आषाढे यावणे पौष्टे माषे भाद्रपदे भ्रुवम् ।
मार्गशीर्षे ति कालं च बातरोगं प्रकोपयेत् ॥

* * * * *

श्रौकल्याणगुणाधार श्रीपते पुण्य मूर्तये ।
बन्देचिकित्सारचितं गदासंजीवनं तदा ॥
आदौ रोगनिदानं च द्वितीयो यप्रसातस्थाः (?) ।
तृतीयोषधकल्पं च बक्षते तु महारसः ।
चतुर्थं मूलिकाकल्पं पञ्चमं रक्तमोक्तणम् ॥
अथाग्निरक्ताकर्माणि षट्मेदेन चिकित्सितम् ।
सप्तमं शस्त्रकार्माणि मन्त्रमष्टविधं भवेत् ॥

End :

अथ विषुच्य जीर्णनिदानं व्याख्यास्यामः—

यथा आरं बलबता यथा बातोलुणानि च ।
यथा व्यापारशैत्योक्तं तथा रोगः प्रजायते ॥
भोजनातिशयं मुर्वी तस्याजीर्णं चतुर्विधम् ।
रसशेषण विस्पष्टं विधुमि धूमनामतः ॥
जीर्णशेषं छर्दिशेषं रसशेषाभिधानकम् ।
सर्वे नाजीर्णनामाहं विस्पुष्टेन प्रकोर्तितः ॥
आम्लोद्वारे च धूमे च विधुमे कर्णनेत्रयोः ।
कण्ठनाभी आदिमध्यं तावुद्वारविजृम्भणम् ॥
एवं चतुर्विधमिदं तस्याजीर्णोयरोगजः ।
विस्फुष्टस्य च विख्याता विशेषान्मरणं मुखम् ॥

* * * * *

मृत्युरोगं च विख्याता सद्योमृतुपविष्टुचिका ॥

* * * * *

Colophon :

इति । श्रौवत्सगोलपवित्रापस्तम्बसूतकवितावैद्यविद्यातिनेत्रमाधव-
पण्डितविरचिते गदासंजीवनोनामग्रस्यात्तरे विषुचिनिदानमजीर्णनिदानं
संक्षेपेण समाप्तः ॥

MADHAVA.

No information is available to us as to this author except his book.

His work :

1. Kūtamudgara : On Treatment of Indigestion and Diet.

Mss. : L. 792. (A. S. B.) : 140 slokas.

Begins : कफबातौ वातकफौ यातः पित्तच्च बुद्धिसमौ ।

त्रिभिरादैस्त्रिभिरन्तैस्त्रिभिराष्ट्रपरैस्तदन्यैश्च ॥

Ends : भिषजा माधवेनेदं किं ज्ञानेनात्पदर्शिना ।

यत्किञ्चिदुक्तमज्ञानात्तत् चमध्बं मनौषिणः ॥

Colophon : इति श्रीमाधवविरचितः कूटसुहरः समाप्तः ।

Contents :—

- 1 मधुराम्लादिष्ठुमगुणदोषकथनां
- 2 जीर्णजीर्णान्नगुणदोषः ।
- 3 पानौयापानौय जलनिर्णयः ।
- 4 सन्निपातभेदादि ।
- 5 व्रणचिकित्साप्रकारः ॥
- 6 पत्त्यापथ्यनिहेशः ।

It has a commentary by an unknown author :

1. Kutamudgara-tikā : Commentary on the Kūtamudgara.

Mss. : L. 792.

Begins : ॐ मधुराम्ललवणकटुतिक्तकषायाः षड्साः । तत्र त्रिभिराद्यै मधुराम्ललवणैः कफबातौः यथाक्रमं बुद्धिसमौ यातः । कफो बुद्धिं याति वातः शमं यातौत्यर्थः ।

Ends : किं ज्ञानेन निन्द्यज्ञानेनेत्यर्थः । अत्पदर्शिना अत्पाष्यतेन एतेन आत्मनः सविनयत्वसुक्तम् ॥
क्षौरमिव बारिविमिशं भज्यहेसेन (?) पौयते यद्वत् ।
हिला दोषमशेषं गुणमिह गुणिनो ग्रहीष्यन्ति ॥

Edition :—Kutamudgara has been printed by Ksēmaraja and Krisnadas of Bombay.

CORRESPONDENCE.

To THE EDITOR,

THE JOURNAL OF AYURVEDA,

CALCUTTA.

Dear Sir,

In the November 1924 issue of the JOURNAL OF AYURVEDA Dr. Baidyanath Charan Ray, M.B. writes that the easiest way of purifying Shilajatu is by dissolving it in water and allowing it to stand for some time. The Shilajatu floats on the top of the water in the form of a scum which is separated and dried. I have tried this process but I do not find any scum on the top of the water ; on the contrary, the Shilajatu is dissolved in water.

In Yogachintumani (योगचिन्तामणि) it is written that Shilajatu could be purified in summer season by rubbing with cow's milk, decoction of Trifala and juice of Bhàngra successively for a day and dried in the sun each time.

In Yogachintamani (योगचिन्तामणि) it is written that Shilajatu could be purified by rubbing it in iron pot with cow's milk, etc., as mentioned above.

In Rasaràj Mahodadhi (रसराज महोदधि) it is written that Shilajatn could be purified by rubbing with the juice of Trifala and cow's milk successively for one day.

Now please let me know which is the correct process of purifying Shilajata, and whether it could be dried by means of the heat of the sun or by some other means.

Dr. Baidyanath also writes that the solution of Shilajatu could be injected subcutaneously. Please let me know how this solution could be sterilized when he says that it should never be heated.

I shall be much obliged if you or Dr. Ray will kindly let me know the above information through the medium of your Ayurvedic Journal and oblige thereby.

Karachi,

Yours faithfully,

19-2-25.

B. BALVANT SINGH, K.L.M.P.

Minto Gold Medal for Major R. N. Chopra.

We are glad to be able to announce that the Minto Gold Medal for research in Tropical Medicine for 1924 has been awarded to Major R. N. Chopra, M.A., M.D., I.M.S., of the School of Tropical Medicine, Calcutta. This is the first time a member of the staff of the School has been the recipient of this award and we congratulate Major Chopra for this appreciation of his meritorious services in the cause of tropical medicine.

Works on Indian and Tropical Medicine

BY

Dr. Girindra Nath Mukhopadhyaya Vishagacharya B.A., M.D., F.A.S.B.

McLeod Gold Medalist in Surgery; formerly Lecturer on Surgery, Calcutta Medical School & College of Physicians and Surgeons (Bengal); Life Member, Indian Association for the Cultivation of Science; Examiner, Calcutta University.

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WHY THE AMALGAMATION OF AYURVEDIC COLLEGES FELL THROUGH.

The proposed amalgamation of the Ayurvedic Colleges which the Corporation of Calcutta has been contemplating for some time past is about to fall through for reasons which are being misconstrued in some quarters. The authorities of the Ashtanga Ayurveda Vidyalaya have therefore issued an appeal to the Corporation in the following terms :

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6. *Agada-tantra* or diagnosis and treatment of Poisoning, by vegetable, mineral and animal poisons, including Snake-bite, Rabies, etc.
7. *Rasayana* or Hygiene and Medicine for the attainment of Longevity and Rejuvenation in old age.
8. *Vajeekarana* or Sexual Science, including Sexual Hygiene and treatment of sexual diseases.

"Now of these branches only the third, namely the Practice of Medicine survives at the present day mostly in its clinical aspect alone, whilst the others are lost or nearly lost through loss of literature, neglect of practice and various other causes.

"In this connection we beg to draw your attention to the misrepresentation evidently made by some interested parties with the object of prejudicing the public against the Ashtâṅga Ayurveda Vidyalaya. It has been said that a combination of Ayurveda with the Allopathic system will be a scientific blunder insinuating thereby that the Ashtâṅga Ayurveda Vidyalaya is committing this blunder or drifting towards it. We emphatically protest against such insinuation. The real fact is that the public have been led to believe that Ayurvedic literature, as we have it now is complete in itself and requires no additional culture in regard to its lost sections. This is a theory which unfortunately is not borne out by facts.

"Though complete and comprehensive at one time, Ayurveda, as we have it at present, has lost or nearly lost many of its most important sections (e. g., Surgery, Midwifery, etc.) which have to be rebuilt or remodelled on the old relics with some light from the west. For obvious reasons we have often been reluctant to admit this before the public, but finding that advantage is being taken of this omission we are obliged to make the admission in view of the great necessity of recovering the lost sections. *It will be clear, therefore, that those who would mislead the country at this juncture would be doing positive harm to the cause of Ayurveda and, for the matter of that, to the cause of our national progress.*

"Ayurveda is the parent of all other medical sciences hitherto known to this world. We believe that the resuscitation of Ayurveda is possible only by methods based on a comparative study and research and not by blind orthodoxy. Even the treasures that we have in Ayurveda in the fields of Surgery, Midwifery, etc., cannot be unearthed unless and until the dead weight of ignorance and orthodoxy is removed. It will not be out of place to mention in this connection that it has been recently discovered that no less than 70 or 80 per cent. of the modern surgical instruments are either identical with or closely allied to the instruments described in Ayurveda by Susruta and Bagbhat. This discovery would not have been made without comparative study.

"It would be clear even to the lay mind that in order to revive many of these extinct and forgotten branches, we must pursue a liberal policy of assimilation of western light where necessary, and no manner of blind orthodoxy begotten of ignorance and prejudice ought to be allowed in the domain of science. It is our endeavour not only to resuscitate Ayurveda in the form in which it is known to have existed in ancient times, but revive it in all its glory so as to make it capable of standing up in rivalry

with other modern systems. Unfortunately for us the authorities of other institutions do not agree with us in this view which we, rightly or wrongly, consider to be the most rational line of thinking. There are some who betray not only a lamentable narrowness of views which makes them unable to grasp the present situation, but also a sad inclination to make uncharitable insinuations calculated to introduce untouchability even in the domain of science, although consistency between their practice and profession is hardly to be found. We regret to find that with our best efforts we have been unable to bring the authorities of the two sister institutions to share our views and we therefore honestly believe that an amalgamation with them will not be conducive to the well being of the cause which we are earnestly trying to further by devoting to it our time, energy and funds for these long years.

"It may not be out of place here to touch upon another important point which finally influenced our decision. Contrary to the recommendation of the Amalgamation Special Committee the Provisional Board of Management was formed in such a manner as to include persons who are intimately connected with, or are admittedly biased for the other institutions, (some of them being also signatories to an appeal which was issued on behalf of the Vaidya Sastra Pith even at a recent date). Naturally therefore this proposed Board failed to inspire our authorities with hope and assurance regarding the fulfilment of our much cherished ideals. If therefore we have been unable to avail ourselves of the opportunity so kindly afforded to us by the Corporation, we have been forced to do so with great reluctance and solely out of our devotion and fidelity to our ideals.

"It may be worth while to note further that with a view to prove the keenness of our desire for amalgamation, the members of the Ashtanga Ayurveda Vidyalaya serving in the Special Committee have adopted the Draft Report of the said Committee. But it will be clear to you from the anomalous manner in which the election of the Provisional Board was carried out that *the recommendations of the Special Committee were not acted upon.*

"As gentlemen of light and leading who have been called upon not only to further the well-being of this great city and to grant relief to its teeming millions of suffering humanity but also to create the future history of this country, you will, we hope, realise the sincerity of our motive and not allow yourselves to be influenced by prejudice against one party or undue favour for the other. We stand by truth. We want to develop the science of Ayurveda in its entirety and hold it up to the world in all its past glory. It is the mission of the Ashtanga Ayurveda Vidyalaya to send out qualified students versed in all the eight branches of Ayurveda and capable of holding their own against practitioners of other schools of

medicine. We want the future Kaviraj to enter upon the field of practice without being frightened at the sight of a surgical case requiring the use of a knife, or feeling himself at sea when confronted with a case of difficult labour ; but to manfully face the situation and manage it with the improved knowledge at his command, without having to depend upon practitioners of other systems, as is the case with the present-day Kavirajes and thus better serve the cause of suffering humanity."

As the appeal brings out clearly the fundamental points of difference between the two schools of Ayurveda fighting for supremacy in the hearts of the public of Bengal—perhaps of other provinces of India too—we make no apology for quoting the appeal almost *in toto*. We would request such of our readers to help the public with sound advice and allow themselves not to be carried away by the rosy arguments of the insincere cult of the so-called "genuine Ayurvedists" who live in their own paradise of self-sufficiency and would stand in the way of progress.

* The recommendation stands as follows :—

1. There shall be a Provisional Ayurvedic Board which shall manage and control the affairs of the institution for one year from the date of amalgamation. This Board shall be constituted as follows :—

(a) Each of the existing three Colleges shall elect						
3 members	...	...	...	...	...	9
(b) The Special Committee shall elect—						
(I) 3 eminent Kavirajes not connected						
with the existing Colleges	...					3
(II) 6 members from the general public	...					6
(c) The Corporation shall nominate 3 members	...					3

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(Vide p. 6, Draft Report of the Amalgamation Special Committee).

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Original Articles.

STEPS TOWARDS THE AYURVEDIC RENAISSANCE *

By

CAPTAIN G. SRINIVASAMURTI, B.A., B.L., M.B., C.M., I.M.S.
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My first duty and that a very pleasant one is to tender you my most cordial thanks for the honour you have done me by electing me as the President of this great gathering. I must confess, however, that, when only a few days ago, telegrams reached me most unexpectedly asking me if I could consent to preside over this conference, I did feel some hesitation in accepting the honour, as I then thought and still think, that it had come to me rather prematurely; but I soon settled the question by saying to myself that if it is your pleasure to command, it must be both my duty and my pleasure to obey; and thus it is that I am here to-day to do your bidding to the best of my ability.

For many years past, it has become customary for Presidents of Ayurvedic conferences to devote a good part of their addresses to defend Ayurveda against the many hostile criticisms levelled against it. I wish, if I may, to make a departure in this matter. In the first place, I had occasion, not very long ago, to state at some length what I had to say on this aspect of the matter and there is really very little I could now add, even if I had the desire to play the part of the vigorously combatative controversialist—a role which, most emphatically, I do not wish to assume. In the next place, no one who has watched the trend of events in the recent past—especially in my own presidency can fail to notice that we are now at the end of the old era of misunderstanding and controversy and the beginning of a new era of mutual understanding and co-operation. One feels, Gentlemen, that the night is now far spent and the day is at hand. There are clear evidences everywhere of the dark clouds of mistrust and apathy melting before the glorious morning sun of sympathy and good-will. Cold and dead indeed must be the soul that is not

*The presidential address delivered before the Andhra Ayurvedic Conference, Madras, and specially contributed to the *Journal of Ayurveda*.

moved, and moved to generous impulses at the sight of a noble Englishman rising mightily superior to the age-long prejudices of his surroundings, and being intent only on the welfare of the millions committed to his care, come courageously forward to remove, by one simple and gracious act of formally opening a Government School of Indian Medicine, that badge of Medical untouchability till now attached to Ayurveda in high quarters. Praise be to God and to those of His human instruments who readily lend themselves to the working out of His Will that "sweetly and mightily ordereth all things"; and if in this connection, there are two noble names which deserve to be remembered for all time with special gratitude, they are those of H. E. Viscount Goschen and the Hon'ble the Rajah of Panagal; the broad-minded sympathy and the extraordinary insight of our Governor, the patriotic statesmanship and the courageous determination of our Chief Minister are, if I may respectfully say so, worthy of all praise. It is to these two noblemen that we, in British India, owe the inauguration of the first School of Indian Medicine under the direct auspices of the Government—truly, a most momentous event, full of the happiest augury and promise for the future of Medicine in general and of Indian Medicine in particular; nor is this the only cause for our rejoicing and diverting every particle of our energy to planning for the present and the future instead of spending ourselves over futile controversies of the past or even of the present; for, while there are still some persons in high quarters who honestly believe that no good can come from Ayurveda, yet, it is gratifying to note that the number of true scientists who are interesting themselves in the study of this subject is steadily increasing and that wherever and whenever they had occasion to come into close contact with the really expert Ayurvedists and their methods the results have been mostly favourable to the reputation of Ayurveda. To an audience like this, it is unnecessary to recall the utterances on this subject of the Late Sir Pardey Lukis—utterances which have now become classical—and of other distinguished scientists like Col. Maclaren, Col. King, Dr. Turner and others. But there is one most remarkable utterance and also a most recent one to which I must specially refer; it comes from a most unexpected quarter, viz., the editorial columns of the *Indian Medical Gazette*. No one can accuse the *Gazette* of sentimental or political partiality towards Ayurveda; opinions coming from such quarters are therefore specially valuable to us; but apart from that, the intrinsic merits of this

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contribution are very great; in the first place, the critic obviously means to help and not hinder the progress of Ayurveda; where such is the case, it is exceedingly good for us to know ourselves as others see us; for, it is far more likely that they see our dark spots better than we ourselves can. In the next place, the critic is one of those true scientists whose one aim is to seek out truth at all costs and whose loyalty to his own "System" does not blind him to the merits of any other "System" but what is even more valuable than these, are the writer's constructive and helpful suggestions for so planning our present programme as to ensure a well-ordered progress for the future of Medicine in India. The passages which I particularly wish to refer to are the following:—

"Of the many systems of medicine to-day practised in India, it is probably true that some nine-tenths of the masses of the Indian population depend on Ayurvedic medicine in some form or another, and that western medicine to-day only reaches about one-tenth of the population despite the network of hospitals and dispensaries with which the land is covered. (The practitioner of western medicine is wont to hold the Ayurvedic system in contempt, but that is simply on account of his ignorance of it). It admittedly has tremendous defects. Yet its merits are greater than its demerits; it (italics, the writer's) and not western medicine is the medicine of the people; it has age-long traditions; it is deep-rooted in the customs and habits of the people; its dietetics especially are based upon Indian dietaries and meet Indian requirements as to caste, creed and constitution; while many of its leading practitioners are men of great clinical acumen and skill. As yet, text books of Ayurvedic medicine are few and scanty, and the practitioner of the western system, ignorantly believing that there is no code of truth with which that system does not deal, ignores it. He would do better to study it and take from it what is good."

The writer then proceeds to state what is really the pith of the matter: "Medicine is not national but international; it has no room for narrow, sectarian, systematic or national jealousies. Both the European and the Indian Medical graduate should get to know each other better than they do; Medical clubs and societies should be encouraged and each large teaching Hospital should be a meeting ground for East and West, socially and professionally. What is desirable is that what is good in both systems should be combined, that the Ayurvedist shall learn the anatomy, the physiology, the modern midwifery and the present day experimental pharmacology

of the Western system ; that the practitioner of the Western system should study the dietetics, the methods of health cultivation, the better known drugs and the special methods of the Ayurvedic system. For the hundred and one everyday ills of life the Ayurvedist can prescribe just as successfully as his confrere of the Western system ; it is only in the presence of serious illness that the latter excels."

I know that many of you will not accept this last claim ; but in such matters of mere opinion, let us respect the opinions of others as we wish our opinions to be respected by them.

Finally, the writer concludes by laying down the only possible policy to be followed—viz., "to study the conditions present and the systems in vogue ; to take from each what is best in it ; to build up, gradually, little by little, line by line, *a true universal system of medicine*, with its own medical literature, its own indigenous pharmacopœia, its own teachers moulded and adapted to the real needs of the country and its peoples."

OUR AIMS AND IDEALS

If the building up of the universal system of Medicine depicted above is the ideal of our Western brethren, then we may say at once that there is really no difference of opinion in this respect between them and us. May I, in this connection refer, with your leave to the following passage written nearly two years ago, when I ventured to make an appeal on exactly similar lines :—"After all, is it necessary to be ever talking of rival systems of Medicine, as though scientific truths can possibly vary with the orient of this, that or the other geographical unit ? If the one-pointed search after truth is everywhere the aim of scientific endeavour, there can be but one system—one without a second—of any science, whether it be Physics, Chemistry, Biology, Medicine or any other. Theories and hypotheses have been, and can be many, but truth is one ; it is neither Eastern nor Western but universal. It can not be that water is H_2O in the west and somethings else in the East. Theories and methods of Easterners may well differ from those of the Westerners and there may also be different schools and sub-schools of thought amongst the Easterners and Westerners themselves. Wherever knowledge is imperfect, as it undoubtedly is in Medicine, such differences of opinion, theories and hypotheses are inevitable. But no true scientist—Eastern and Western—would ever reject a proposition, merely because it is advanced by one born or living in an orient different from his own. If it is proved that the other view is better than his own,

he would not have the least hesitation in loyally accepting it. Ever since the dawn of history there has been free and unrestricted communion between the East and the West in the domain of learning. In Medicine, as in other branches of knowledge, each has freely and joyously given to, and taken from, the other in the past. Even when kings were engaged in mortal strife, the men of medicine were freely fraternising as members of that universal brotherhood of knowledge and wisdom which knows no distinctions of race, creed, or community. The supreme object of all students of Medicine, Eastern or Western is the maintenance of health, the prevention and cure of disease. There is no better way of working towards the fulfilment of this object than to think in terms of the whole of Humanity, and of no lesser unit such as the European, the Asiatic and the like, which sometimes, unfortunately, and may I also say, so unscientifically, divide man from fellowman, even in the colourless domain of science. Many many years ago, Charaka Acharya laid down the following for the guidance of his disciples :—

तदेव युक्तं भैषज्यं यदारोग्याय कर्त्त्यरते ।

स चैव भिषजां श्रेष्ठो रोगीभ्य यः प्रमुचयेत् ॥

Charaka, Sutrasthanam, Ch. I.

न चैव वृद्धस्ति सुतरामायुर्ब्देदस्यपारम्, तस्मादप्रमत्तः
ग्रखदभियोगमस्मिन् गच्छेत् । * * * कृत्स्नो हि लोको
वृद्धिमतामाचार्यः शत्रुशावृद्धिमतामतश्चभिसमौच्य
वृद्धिमता अमितस्यापि धन्यं यशस्यमायुषरः पौष्टिकं लौकिक-
मध्युपदिशतो वचः शोतव्यमनुविघातव्यश्वेति ।

Charaka, Vimanasthunam, Chapter VII.

"That alone is the right treatment which makes for health. He alone is the best doctor who frees us from diseases."

"There is no end to the Science of Ayurveda ; hence heedfully, shouldst thou devote thyself to its acquisition. Unto men possessed of intelligence, the entire world acts as a proceptor ; unto men destitute of intelligence, the entire world appears as an enemy. Hence the wise should listen to and follow the counsels of even an opponent when they are instructive, praiseworthy, calculated to promote health and life and well suited to the conditions of the people."

Can there be wiser counsels for us to follow than what is contained in the above, and may we not also adopt the view that, in so far as the one common ideal of all systems of Medicine is the preservation of health and prevention of or cure of ill-health, there can really be but one system of Medicine, of which the many existing "systems" are but parts, each part being more appropriately looked upon as a special 'School' of thought rather than as an independent system of Medicine? Consistently with this view, one would like to see that the future practitioners of India, no matter whatever denomination they belong to—Ayurveda, Unani, Siddha or European Medicine—are so schooled and trained, as to bring to bear on the problems of health and ill health, not only the expert knowledge of their own systems but, as far as practicable, the best that is in other systems also.

THE MEANS.

Having now stated what our aims and ideals are, the next question that naturally arises is "What are the means by which we hope to achieve our aims and ideals"? In answering this question it is necessary to remember that not only should we go on excelling in our strong points but, what is even more important, we should frankly recognise our weak ones and get rid of them as early as we can.

The system of medical training in ancient times was for the pupils to approach experienced Gurus with requests for being trained. If accepted, they lived, more or less, as members of the family of the Guru, and were given leave of discharges when the Guru thought that the pupil had made satisfactory progress. Admirable as this system proved to be in ancient times, it has now become unworkable and is fast disappearing from many parts of India; the result is that, taking advantage of the great popularity which the Indian systems enjoy, due largely to the undeniable successes of real experts (who are unfortunately few and far between) a large number of self-appointed experts have come into existence and blatant quackery has become rampant everywhere. The establishment of a sufficient number of efficient centres of Medical education with their associated Hospitals, Herbaria, Libraries, Laboratories, Museums, etc., is therefore a matter of clear and urgent necessity. If, Gentlemen, we are agreed that our ideal is to see that the future practitioners of India no matter to what denomination they belong to, are so schooled and trained as to be able to bring to bear on the problems of health

and ill health not only the expert knowledge of their own systems, but, as far as practicable, the best that is in other systems also, and if further, we are not to remain content with simply enriching our own knowledge by taking in whatever is valuable in others and equipping ourselves to serve our own people more efficiently than we could otherwise do, but also consider it our high mission to serve the rest and the whole of humanity by so presenting our own treasures to the followers of other systems that they also may be able to enrich their own systems and serve their own people more efficiently than they could otherwise do—if these, Gentlemen, are our high ideals, then it necessarily follows that our ancient scheme of studies has to be so remodelled as to enable us to commune freely with other nations of the world, on equal terms, at least on that colourless, casteless and creedless platform of Medical Science to the end that we of Medicine at least may meet everywhere as brothers—brothers of service if you please—and realise each, in his own measure, the eternal truth and beauty of that wonderful Maitri (मैत्री) and Bhutadaya—(भूतदया)—love and *compassion to all beings*—which moved our most compassionate Maharshis and venerated fathers of Medicine, to give to the world these original scriptures on which Ayurveda has been founded ; for is it not writ in our Medical Scriptures :—

अथ मैत्रोपरः पूर्णमायुर्ब्दं पुनर्वसु ।
शिष्ये भ्यो दत्तवान् घडभ्यः सर्वभुतानुकम्पया ।

* * * * *

तानि चानुभतान्येषां तत्त्वानि परमर्षिभिः ।
भावाय भूतसङ्घानां प्रतिष्ठां भुवि लेभिरे ॥

Charaka—Sutrasthanam.

(To be continued.)

MEDICAL NEWS.

The 15th Session of the All-India Ayurvedic Conference and Exhibition will be held at Hardwar on the 7th, 8th, and 9th of April next. Pundit Sri Jadavji Trambakji will preside and eminent Vaidas from all parts, India, Burma and Ceylon are expected to take part in its proceedings. It is expected that the authorities of Gurukul and Rishikul Educational Boards will make a common cause for the success of the Conference.

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HYGIENIC METHODS IN AYURVEDA.

BY

ASHUTOSH ROY L. M. S.,

(Continued from February 1925 issue).

Seven days before and seven days after the junction of two consecutive seasons are the limit during which time the food of one season is to be gradually changed to that of the succeeding season, for abrupt change without giving the digestive organs time to accommodate the change in diet, will cause diseases.

There is progressive lassitude of the body from the end of winter, which reaches its maximum in summer. The energy of the body progressively increases after summer and reaches its maximum in winter. This is due to atmospheric conditions which are changed with each season. The digestive organs share this organic activity in general with other organs, hence the necessity of taking foods of different tastes in each season.

Vayu which begins to be aggravated in summer reaches its maximum in rains and gradually subsides in autumn. *Pitta* which begins to be excited in rains reaches its maximum in autumn and diminishes in early winter. *Kapha* which begins to increase in late winter, reaches its maximum in spring, subsiding in summer. We may therefore summarise the *doshas* of each season as follows :—

Autumn—*Pitta* aggravates, *Kapha*-*Vayu* disappears.

Early Winter—*Pitta* disappears, *Kapha*-*Vayu* appears.

Late Winter—*Kapha*-*Vayu* are just a little affected.

Spring—*Kapha* in excess.

Summer—*Kapha* disappears, *Vayu*-*Pitta* appears.

Rains—All the three *doshas* are aggravated, specially *Vayu*.

It will thus be seen that the rainy season is the worst time in the year when health is more affected and diseases more rampant. A "doshā", which normally is aggravated in a season, if causes disease, is more amenable to treatment, than a "doshā" whose aggravation out of season causes disease.

Improper food and drink aggravate *dosha* in three ways :—

- (a) It aggravates the "dosha" of each season.
- (b) It " " of another season (previous)
- (c) It " " which appears earlier than its own season.

Thus "pitta" may be aggravated by improper food and drink in its own season (autumn), out of season (winter) earlier (rains).

It is therefore enjoined to take proper food for each season, to check Vayu particularly in rains, Pitta in autumn and Kapha in spring.

Foods are often of mixed taste, of which minute description is given against each. Six primary tastes are described as sweet, acid, saline, bitter, pungent and astringent. The secondary taste (combination of primary tastes) may be of 57 different kinds. A food may have a primary taste or a secondary taste.

Excess of astringent कषाय ..	aggravates Vayu
------------------------------	-----------------

,, Pungent कट ..	„ Pitta
------------------	---------

,, Sweet मधुर ..	„ Kapha
------------------	---------

A combination of

Sweet, acid, saline—checks Vayu increases Kapha.

„ Bitter, pungent, astringent—aggravates Vayu, checks Kapha.

„ Sweet, bitter, astringent—checks pitta,

acid, saline, pungent—aggravates pitta.

Again—

Heat generating foods—checks Vayu-Kapha, increases Pitta.

Cooling „ —increases „ checks „

Soothing and heavy foods—checks vayu, increases kapha.

Again—

Acid, if taken, is increased in Rains

Saline	„	Autumn
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Sweet	„	Early winter
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Bitter	„	Late winter
--------	---	-------------

Astringent	„	Spring
------------	---	--------

Pungent	„	Summer.
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Hence foods of the above taste should be avoided in those seasons respectively.

Modern western medicine has noted most of the above factors discussed under the three headings (Dinacharjya, Ritucharjya and Brahmacharjya) under the Laws of Hygiene, but not in such minutest details, which may be applied in individual cases differing according to different diathesis, so nicely. It may however be stated that while modern medicine has given greater importance to public health, so admirably adapted to check epidemics of diseases, it has paid little attention to individual hygiene which will preserve health. This is due to the difference in the angle of vision of modern medicine from Ayurveda.

Though Ayurveda gave greater attention to individual hygiene, ideas of public health are not wanting. The rules for building houses in Bengal are stated as follows :—"Build your house with a tank on the east (to cool the heat of the sun), a bamboo grove in the west (to avoid the heat of setting sun), close the north (to avoid the north wind, very chilly in winter) and keep the south open (to enjoy the cool sea breeze in the evening and at night in summer). Such directions vary with locality.

Again "outbreaks of epidemics had been attributed to contrary seasons, to the floating of minute particles of poisonous flower pollens in the air (which induce, for example, hay asthma, as we now know), to mortality amongst rats and other burrowing animals which is increased before epidemic and associated with it (e.g., Plague), to unusual death amongst birds (e.g., malaria ?), to earthquake, famine, etc., due to magnetic disturbances of the Earth which are often precursors of devastating epidemics. Evacuation of a whole village is enjoined when an epidemic breaks out.

The reason why public health was not given so much attention in Ayurveda is due, says Vhisagratna to the condition of the country in those days, quite distinct from what we find in our times. These are summed up as follows :

(a) There were no free inter-communication between the different parts of the country, not to speak of the world. Imported diseases were absent and epidemics occurring locally did not spread to large areas.

(b) The natural drainage of the country was not obstructed by railway embankments, such a fruitful source of water-logging and malaria as recently announced by Dr. Bentley.

(c) There was no collection of a large number of population in big towns as we find now-a-days, which makes the subject of Public Health, so important in the present time.

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(d) Each village was a republic supplying all its own needs and consisting of a small number of population living simply more as "children of nature". Inter-communication was thus further restricted.

(e) There was absence of artificialities and luxuries of modern civilisation along with its adulterated food; cowdung and congestion, indoor life, often devoid of fresh air and sufficient light, dusty and smoky atmosphere and so on.

It may be noted that *the Indian mass at the present day, while they have forgot the beautiful precepts (for the observation of sound hygienic laws) of their forefathers are not sufficiently educated in western ways to absorb the laws of public health enjoined in modern western medicine.* The wholesale grafting of western ideas (without any consideration of the social, economic and other racial factors) of public health is not producing the results it did in the west.

The state of confusion induced by the influx of western civilisation in modern India, has been nicely described by Dr. Muthu, Superintendent, Mendips Hill Sanitarium in his book on Tuberculosis as follows :—

"In India, the contact of the east with the west has caused great social, economic, industrial, moral and spiritual upheavals, as witnessed in the growth of big towns and cities, the expansion of trade and commerce, the depopulation of villages, the decay of home industries, emigration into towns and commercial centres, high rent, dear adulterated food, overcrowding and insanitation, poverty and want, intemperance and degeneration. The dark races, the simple children of nature, blessed with indolent peace and absence of worry coming under such violent change of environment where the floodgates are open to all European vices, readily succumb to Alcohol, Syphilis and Tuberculosis".

Such is the effect of white civilization in the East.

METALS IN AYURVEDA. GOLD AS A THERAPEUTIC AGENT

BY

KAVIRAJ A. C. BISHARAD, VISAGBHUSAN,
M. R. A. S. (Lond.),

AND

DR. SANTOSH KUMAR MUKERJEE, M. B.

SYNONYMS IN SANSKRIT:—

सुवर्णं कणकं हेम हाटकं चैव काञ्छणम्

चामाकरं शातकुम्भं तापनीय च रुक्मकम् ।

जाम्बुनन्दं हिरण्यं च स्वर्णं च जातहपकम् ॥

—Madan Pál.

NAMES IN DIFFERENT LANGUAGES:

HINDUSTHANE :—*Sóná*.

MAHARATTI :—*Sóné*.

GUJRATI :—*Sónū*.

CANARESE :—*Swarna*.

TELEGU :—*Bagárang*.

PERSIAN :—*Tita*.

ARABIAN :—*Jahb*.

LATIN :—*Aurum*.

ENGLISH :—*Gold*.

CORRECTION OF GOLD BEFORE REDUCTION.

Pure gold leaf, free from any admixture of copper and silver or any other alloy should be used. Its colour should be deep red when exposed to heat and of saffron hue when rubbed on a touch stone.

There are various processes described for correction of gold some of which may be mentioned here :—

- (1) It is generally corrected by heating the gold leaves and cooling them alternately in Kanjika (fermented whey), oil, cow's urine, butter-milk and decoction of gram called (Kulattha)

- (2) Gold leaf 2 tolas and salt 2 tolas to be placed inside a covered crucible and heated for three hours in charcoal fire.

It may be surmised that this process of correction, most likely helps the reduction of gold.

REDUCTION OF GOLD (सर्वभज्म)

Thin gold leaves which can be pierced by a thorn are the best for reduction.

There are several methods of killing gold for medicinal use amongst which the following may be described for the edification of our readers :—

(1) शुद्ध समसूतं स्वर्णं खल्ले कल्वा तु गोलकम्
 उर्जाधो गन्धकं दस्वा सव्वेतुत्यं निरुद्ध च ।
 तिंशद्वनोपलैर्हद्यात् पुटान्येवं चतुर्हंग
 निरुत्य जायते भष्म गन्धोदेय पुनः पुनः ।

Rasendrasarasangraham v. 126.

“One part of each of gold and mercury are rubbed together into a mass with lemon juice and placed with two parts of sulphur below and above the mass, inside a covered crucible and exposed to heat with thirty cowdung cakes in the usual manner. This process is to be repeated 14 times till the gold is reduced to fine impalpable powder, which cannot be made to assume its original standard of gold by any process”.

(2) स्वर्णस्य हिगुणं सूतमस्त्रेन सह मर्हयेत्,
 तद्वगोलकसमं गन्धं निदध्वादधरोत्तमम्,
 गोलकस्त्रं ततोरुडा ग्राव दृढानां पुटे,
 तिंशद्वनोपलैर्हद्यात् पुटान्येवं चतुर्हंग,
 निरुत्यं जायते भष्म गन्धोदेय पुनः पुनः ॥

“One part of gold leaf and two parts of mercury are rubbed together into a mass with lemon juice and placed in a crucible with three parts of sulphur covering the mass and exposed to heat with thirty cow-dung-cakes. This process of mixing the gold with mercury and exposing to heat with sulphur is to be repeated 14 times when

the gold is reduced to a dark brown impalpable powder, which can not be made to assume the shape of the mineral by any known process."

Shirangadhara, Chap 12, v. 56.

(3) "In killing the elephant of a metal, sulphur plays the part of a lion," says BHAIKABA in *Rasarnava Tantra* :—

नास्ति तत्त्वोऽसातङ्गो यत्र गम्भकंशरा
निहन्तादगम्भ मात्रेण यदा मात्रिक-के शरौ ।

(4) The tantric method of reducing gold is described in the same book. Before final preparation the following material called "Vida" should be got ready, which cuts short the repetition of the process of alternate rubbing and heating.

कासीसं सैन्धवं मात्रो सौवीरं व्योष-गम्भकं
सौवर्चलं व्योषका च मालतौरससम्भवः
गियुमूलरसैः सिन्धोविडोऽयं सर्वजारणः ॥

Rasarnava, IX. 2-3.

"Kasisa (green vitriol), rock salt, the pyrites, sauvira (stibnite) the aggregate of three spices (round pepper, long pepper and dry ginger), Sulphur, salt petre, the expressed fresh juice of *mālati* flower (*echites caryophyllata*) all these moistened with the juice of the root of moringa pter, make a *vida* which would reduce all the metals."

Then the author proceeds to describe in detail the process of reduction of gold by the help of this *Vida*.

आसुरोटङ्गणञ्चैव नरसारस्तथेवच ।
कर्पूरस्त्वै व मात्रिकं समभागानि कारयेत् ।
सुहार्कं दुर्घे देवैग्नि सुषालेषन्तु कारयेत् ।
विडं चूर्णं ततो दख्वा कणकं जारयेत् प्रिये ॥

Rasarnava Tantra, XI. 83-86.

"Take equal parts each of saltpetre, green vitriol, sea-salt, rock salt, mustard borax, salamonic, camphor, the pyrites, place in a covered crucible smeared beforehand with the milky juice of *Euphorbia Neriifolia* and *Asclepias gigantea*: than when the aforesaid *vida* is added the gold is killed."

(5) The following process is given by *Nityanātha* in *Rasaratnākara* :—"Rub gold leaf with four times its weight of killed

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mercury and sublime the mixture in a closed crucible. The gold is reduced on repeating the process eight times."

The following being the easiest of processes of reducing gold are now generally used by the modern Ayurvedic practitioners :—

(1) Take of gold leaf one tola and mercury one tola, mix and rub well till the mercury absorbs the gold leaf ; then add sulphur two tolas and go on rubbing to prepare kajjali (black sulphide of mercury), till the mixture assumes the form of a black powder and the particles of mercury *disappear* altogether. Place the powder in a covered crucible and burn in cowdung cake fire in the usual way. This process repeated 14 times kills the gold effectively.

(2) Take of gold leaf one tola, mercury four tolas, sulphur 16 tolas, prepare Kajjali powder as described above and burn in the usual process.

SCIENTIFIC EXPLANATION OF THE ABOVE PROCESS OF REDUCTION .

First gold and mercury form an amalgam. Then mercury combines with sulphur producing sulphide of mercury (Kajjali), which by repeated roasting in a covered crucible sublimes to the underside of the cover of the crucible, while the powdered gold is left in the bottom of crucible.

Nowadays many Ayurvedic physicians do not prepare reduced gold separately. During the preparation of Makaradhwa or *Swarna-sindura* the fine gold powder is left behind in the crucible, while Makaradhwa sublimes upward. The gold is taken out and used as reduced gold, but it is not properly reduced and should not be used in medicines as the powder retains its metallic character unless the process is repeated a number of times.

CHEMICAL ANALYSIS OF REDUCED GOLD.

Reduced gold is nothing but fine powder of metallic gold, as is proved by the following tests :—

- (1) Colour retains its characteristic yellow tint.
- (2) On being rubbed on an agate mortar it produces a brilliant yellow stain—like that of massive gold when it is rubbed on a touch-stone for ascertaining its purity.
- (3) It is insoluble in nitric or hydrochloric acid, but dissolves in aqua regia (nitro-hydrochloric acid). In some specimens a trace of oxide of gold was also found.

CHARACTER OF REDUCED GOLD.

Colour : Yellowish coloured powder ; when properly reduced it does not assume its original metallic character by any known process.

THERAPEUTIC VIRTUES—OPINIONS OF VARIOUS AUTHORITIES
ON AYURVEDA.

सुवर्णं श्रौतलं वृथं बल्यं गुरु रसायणम् ।
कान्तिकरं विषोन्मादं लिंगोष-ज्वर-गोषजित् ।
कषायं तिक्तमधुरं सुवर्णं गुरुलेखनम् ॥

Madan Pál.

"Gold is cooling, increases semen, induces strength, is hard to digest, is a Rasayana or rejuvenator, imparts lustre of beauty, astringent, bitter and sweet and is heavy. It is effective in poisoning, loss of equilibrium of *Vayu*, *Pittam* and *Kapham* in the system, fever and consumption."

The author of *Rasaratna Samucchaya* extols its virtues in insanity, in the following strain :—

आयुर्लक्ष्मी-प्रभाधीं स्मृतिकरमस्तिलव्याधिविक्षंसि पूरणं ।
भूतावेश-प्रशान्ति स्मरभर सुखदं सौख्य-पुष्टि-प्रकाशि ॥
गाङ्गेयं चाथरुप्यं गदहरमजराकारि मेहापहारि ।
क्षीणानानां पुष्टिकारि स्फुटमति-करणं बीर्घ्यज्वलिप्रकारि ॥

"Gold increases longevity, induces luck, health, intelligence, memory and is a effective remedy in all diseases, free from any depressing after-effects, removes spirit-possession, (hysteria, epilepsy, etc.), increases sexual power, is nourishing, prevents senility, cures seminal diseases, is the best tonic for the weak, increases memory and is an aphrodisiac tonic.

Then again we find in the same book :—

स्त्रिधं मेष्यं विषगदहरं छुं इनं वृषामयम्
यज्ञोन्मादप्रशमनकरं देहरोग प्रमाणित् ॥
मेष्या-बुद्धि-स्थृतिः-सुखकरं सर्वदोषामयम् ।
इच्यं दीपि प्रशमितरुजं खादुपाकं सुवर्णम् ।

—Rasaratnasamuchhaya.

"Gold is cooling, nourishing, free from any bad after-effects, effective in poisoning, very nutritious, and possesses aphrodisiac virtues, cures consumption and insanity, invigorates intelligence, energy and memory, brings on happiness (by blessing the user with health and strength), removes all sorts of *Doshas* and diseases resultant thereof, is appetising, generates digestive power, a preventive of pain and sweet in reaction."

GOPALBHATTA in his famous work *Rasendrására-Sangraha* speaks of gold as :—

कषायं तिक्तमधुरं सुवर्णं गुरुलेखनम् ।
हृदयं रसायणं बल्यं चक्रुष्टं कान्तिपं शुचिं ॥
आयुर्मेधा बयः स्थैर्यं दाग्विशुद्धि स्मृतिप्रदं ।
क्षयोन्मादगरानाञ्च दुष्ठानां नाशनं परम् ॥

Rasendrasarasangraha, V. 127.

Here we find, besides the virtues enumerated before, that gold is recommended as हृदय or heart tonic, useful in loss of eyesight and in Leprosy.

In *Uttaratatantram*, ASTANGAHRIDAYA, in summarising the principal useful and effective remedies for diseases, BAGBHAT recommends the use of gold, particularly in poisoning :—गरेषु हेमम् ।

—*Astangahridaya, Uttaratantram, Chap. 40, V. 31.*

Gold should be properly corrected and reduced (killed) before use. The therapeutic value of reduced gold is thus described in the Sanskrit texts :—

एतद्वस्त्रं सुवर्णं जं कटुष्टोपेतं द्विगुच्छोभितं
लोढं हन्ति नृणां च्याग्निसदनं खासञ्च कामारुचिम्,
ओजो-धातु-विवर्जनं बलकरं पित्वामयध्वंसनं
पथं सर्वविषापहं गरहरं दुष्टयहन्यादिनुत् ॥

—*Rasaratnasamuchhaya.*

"Reduced gold in doses of 4 grains taken with the powder of round pepper and clarified butter cures consumption, dyspepsia, chronic dysentery, asthma, cough, disinclination to food, jaundice, poisoning of all sorts and increases the semen and bone marrow and is the best nutritive food."

At the same time gold which is not properly corrected and killed is condemned, for if used as a medicine, it produces many diseases and ultimately brings on death :—

बलञ्च बौर्यं हरते नराणां
रोगन्त्रजं कोपयतोव काये ।
असौरयकारञ्च सदेव हेमा-
पकं सदोषं मरणं करोति ॥

—Rasaratnasaṁucchaya.

THERAPEUTIC USES OF GOLD WITH THEIR ANUPANS :—

To be first well mixed and rubbed with honey and then administered:—

As a general tonic :—with lotus seeds, either fresh or dried in powder form.

(I) *As a general tonic.* Reduced gold is used in Ayurveda as a tonic and alternative. It is said to increase strength and beauty, to improve the intellect and memory, and to increase the sexual power. The well-known alterative tonic Makaradhwaja is prepared with gold.

Gold is also given to feeble infants a few days after birth with the hope that it will impart strength and beauty to the new born.

(2) *In loss of eye-sight* :—Juice of *Punarnava* (*Boerhaavia diffusa*).

(3) *In poisoning* :—Juice of *Nirbishi* (*Ayapan*—the sensitive plant).

(4) *In Insanity* arising out of disintegration of the functions of the *Doshas* :—Powder of dry ginger, round pepper and cloves.

(5) *As a rejuvenator* :—Butter, cream of milk or clarified butter.

(6) *As a builder and aphrodisiac* :—milk and sugar-candy powder.

(7) *In imparting the lustre of health* :—Saffron.

(8) *An invigorator of memory* :—*Vacha* (the sweet flag).

(9) *As an alterative* :—Juice of *Bhringaraja* (trailing eclipta; *wedelia calendulacea*).

(10) *Heart Disease* :—with milk and bark of *Arjuna* (*terminalia Arjun*) and cane sugar.

(11) *In burning sensation* :—bile of fish.

(12) *In Tuberculosis* :—with juice of *Ayapán* or juice of garlic or juice of *cactus grandiflorus*.

The use of gold in tuberculosis is also recommended by some modern western authorities :

In 1890 Koch showed that a salt of gold inhibited the growth of tubercle bacilli in a solution as weak as one in a million. In 1917 Felot and Spies introduced a preparation of gold named "Knysolgan" which was used in the treatment of tuberculosis. Recently Prof. Holger Moellgaard has a new inorganic compound of gold and sodium under the name of "sacrocrysin" which is said to materially check the growth of tubercle bacilli in a solution of one in a million and to arrest it completely in a solution of one in 100,000. Therapeutic doses of sacrocrysin given to a nontuberculosis animal had no ill effects, whereas the same doses given to tuberculous animals gave rise to all the relations that would be expected of a process entailing the wholesale destruction of tubercle bacilli in the tissues. This reaction is similar to and probably identical with the shock caused by large doses of tuberculin given to a tuberculous animal. This reaction could be avoided and overcome by an injection of serum obtained from a tuberculous animal which appear to neutralise the toxins generated by the interaction of sacrocrysin with tubercle bacillus in the body. In other words, passive immunity was conferred on the tuberculous animal which was thus protected from the otherwise fatal action of sacrocrysin.

In treating tuberculous patients with sacrocrysin the three principal reactions—fever, rash and albuminuria—acted as guides to conduct of each case. The temperature in particular was a valuable index to the response of tuberculous body to the interventional injection of sacrocrysin.

Serum from a tuberculous animal was given by intramuscular injection in doses of 20 to 40 cc.m and proved potent in counteracting the tuberculin shock caused by the sacrocrysin.

Sacrocrysin has been found to be a useful drug. It seems to be especially effective for the chronic fibrotic cases; areas of consolidation in the lungs clear up, rales disappear and certain patients have been able to return to work. The difficulties and dangers of the treatment however render it for the present at least suitable only for hospital practice.

That a definite cure for tuberculosis appears to be in sight is the conclusion reached in an important review in the March number of "*Medical Science*" by Dr. S. R. Douglas (Director of Bacteriology in the National Institute of Medical Research), of the Danish Professor Moellgaard's work, "*The Chemotherapy of Tuberculosis*."

Professor Moellgaard is a specialist who knows his subject thoroughly, and Dr. Douglas congratulates him "on his brilliant conception of neutralising the toxic effects of the organisms killed by the chemotherapeutic agent, by means of an antiserum." In non-technical language, a serum is injected into the blood to prepare it for digesting the dead tuberculosis bacilli. Either before or after the blood is thus prepared, a new substance, Sanocrysin, is injected in weak solution, Sanocrysin kills the bacilli; the serum eliminates the poisons which have been caused by the presence of the dead bacilli.

Sanocrysin according to the review, is a compound salt of gold and sodium. It is a solid snow-white substance composed of long needle-like crystals. Its activity is amazing. A solution of 1 in 100,000 kills the bacillus and of 1 in 1,000,000 prevents its growth.

Sanocrysin without the serum kills the bacilli, but it also kills the patient when it is tried on animals. But where its administration is combined with a

serum it has healed animals even when the case was an advanced one. With human beings in the Danish hospitals the results have been hopeful, though there have been some failures. It is expected that with further knowledge and with the preparation of a more efficient and powerful serum greater success may be achieved. At present the use of sanocrysin is only in its infancy, but good medical opinion holds that the world is on the eve of a discovery which will revolutionise treatment and perhaps exterminate tuberculosis.

PREPARATIONS CONTAINING GOLD AS USED IN DIFFERENT DISEASES.

I. In fevers : (*Rasendrasarsangraha*).

- (1) Brihat Kasturibhairab Rasa (Nos. 1 & No. 2)
- (2) Sannipata Suryya.
- (3) Brihat Sarbajwarahara Lauha.
- (4) Moharaja Bati.
- (5) Chintamoni Rasa.
- (6) Trailokshma Chintamoni Rasa.
- (7) Brihat Chintamoni Rasa (Nos. 1 & No. 2)
- (8) Putapaka Bishama Jwarantaka Lauha.
- (9) Brihat Bishama Jwarantaka Lauha.
- (10) Brihat Jwarantaka Lauha.
- (11) Chudamoni Rasa.
- (12) Bhanu Chudamoni Rasa.
- (13) Brihat Chudamoni Rasa.
- (14) Brihat Jwara Chudamoni Rasa.
- (15) Sree Joya Mangala Rasa.
- (16) Swarnasindura or Makaradhwaja.
- (17) Kanaka Sundara Rasa—*Sharangadhara*.

II. Diarrhoea and Dysentery :—

- (1) Bijoya Parpati—(*Rasendrasarsangraha*)
- (2) Swarna Parpati "
- (3) Bijoya Batika "
- (4) Grahani Bajrakapata "
- (5) Hiranyagarbha Pottali Rasa "
- (6) Sangraha Grahanikapata "
- (7) Moharaj Nripati Ballav Rasa "
- (8) Mrigankapottali Rasa—*Sharangadhara*.
- (9) Hemagarbhapottali Rasa "
- (10) Grahanikapata Rasa "

III. PILES :—

- (1) Tikshna Mukha Rasa—*Rasendrasarsangraha*.
- (2) Kanakasundara Rasa—*Rasaratnasamuchhyaya*.

IV. INDIGESTION, DYSPEPSIA, ETC.

Kanakasundara Rasa—*Shárangadhara*.

V. UDABARTA (tympanitis)

Badabanal Churna—*Rasaratnasamuchyaya*.

VI. STRANGURY :—(*Rasendrasanasangraha*)

(1) Rambana Rasa

(2) Raja Mriganka Rasa.

(3) Basanta Kusumakara Rasa.

VII. BIDRADHI (Abscess)

(1) Trinetra—(*Rasaratnasamuchyaya*)

(2) Bárabánal Gutika , ,

VIII. ABDOMINAL DROPSY :—

(1) Kalabidhangsina—(*Rasaratna*)

(2) Panchanan.

IX. LEPROSY.

(1) Kanakasundara—(*Rasarantna*)

(2) Bajradhara Rasa , ,

(3) Sarbeswara , ,

(4) Sarbeswara Rasa—(*Shárangadhara*)

X. NERVOUS DISEASES,—PARALYSIS ETC.)

(1) Chatuhshudha Rasa—(*Rasaratna*)

(2) Bárabanal Churna , ,

(3) Probhabati Batika , ,

(4) Sachhanda Bhairaba , ,

(5) Brihat Batgajankusha , ,

(6) Batnasana Rasa , ,

(7) Batakantaka Rasa , ,

(8) Chintamoni Rasa , ,

(9) Chaturmukha Rasa , ,

(10) Troilakshachintamoni Rasa , ,

(11) Jogendra Rasa (*Vaishajyaratnabali*)

(12) Chintamoni Chaturmuka

XI. STERILITY

(1) Joysundara (*Rasaratna*)

(2) Bardhamana , ,

(3) Druti Sara , ,

(4) Ratnaprabha (*Vaishajyaratnabali*)

XIII. Senility.

Kamala Bilash Rasa (*Rasaratna*)

XIV APHRODISIAC :—

- (1) Kamadeva (*Rasaratna*)
- (2) Kasumayudha "
- (3) Sutendra "
- (4) Kamdhenu "
- (5) Amritarnava "
- (6) Madanasanjibana "
- (7) Pushpadhanya Rasa "
- (8) Rasendra Chudamoni "
- (9) Maheswara Rasa (*Rasendra*)
- (10) Hemasunder Rasa "
- (11) Brihat Purnachandra Rasa
- (12) Chandrodaya Rasa "
- (13) Makaradhwaja with gold
- (14) Basantakusumakara Rasa
- (15) Basanta Tilak ",
- (16) Brihat Sringarabhra ",
- (17) Madan Kambeva Rasa (*Sharangadhra*)
- (18) Kandarpasundara Rasa ",

XV. PHLEGMATIC COMPLAINTS

- (1) Swarbeswar Rasa (*Rasendra*)
- (2) Sarbabhauma Rasa "
- (3) Nityodaya Rasa "
- (4) Mahalakshmibilasharasa ",

XVI. HICCOUGH, ASTHMA.

Swaskasha Chintamoni (*Rasendra*)

XVII. INSANITY, EPILEPSY ETC.

Chaturbhuja Rasa (*Rrsendra*)

XVIII. CONSUMPTION.

- (1) Raja-Mriganka Rasa (*Rasendra*)
- (2) Mriganka Rasa
- (3) Ratnaprabhapottali Rasa ",
- (4) Lokeswarapottali Rasa ",
- (5) Kanakasundara Rasa ",
- (6) Sarvargasundara Rasa ",
- (7) Swalpa Mriganka ",

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- (8) Kanchanabhra (*Rasendra*)
- (9) Brihat Kanchanabhra "
- (10) Kumudasubarna Rasa "
- (11) Brihat Chandramrita Rasa "
- (12) Moha-Mriganka Rssa "
- (13) Kshaya Keshari "
- (14) Mrigankapottali Rasa (*Sharangadhara*)
- (15) Hemagarbhapottali Rasa "

XIX. DIABETES.

- (1) Brihat Somanath Rasa (*Rasendra*)
- (2) Basanta Kusumakara Rasa ,

XX. COLIC.

- (1) Sarbangasundara "
- (2) Trigunakshya Rasa "
- (3) Trinetra Rasa (*Soarangadhara*)

XXI. TUMOUR, CYSTIC GROWTHS ETC.

- (1) Bidyadhar Rasa (*Rasendra*)
- (2) Sarbeswara Rasa ,

XXII. GONORRHOEA, POLYURIA, SPERMATORRHOEA ETC.

(DISEASES OF THE URETHRA).

- (1) Brihat Harishankar Rasa (*Rasendra*)
- (2) Anandabhairava Rasa "
- (3) Bidyabagish Rasa "
- (4) Brihat Bangeswara Rasa "
- (5) Mehakeshari "

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- (8) Rasaratnakara
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THE SUPERIORITY OF AYURVEDA

As demonstrated on a case of Spontaneous Haemophilia

By

SREEMATI PREMAVATI DEVI, VAIDYA VISHARADA,

§ AYURVEDACHARYA,

Bareilly.

Those who are even now sceptic about the efficacy of Ayurvedic medicines may judge whether this indigenous system of treatment has not proved superior to others in obstinate and intractable cases like the following.

Parmeshwari Prasada, Hindu male child, aged 12 years, was suffering from spontaneous haemophilia for about one year. To say nothing about the treatment, none of the medical practitioners far and wide had even seen such a case formerly.

The patient used to get paroxysmal attacks of bleeding and oozing or streaming of blood through the conjunctivæ, tear-papillæ, mucous membranes of the ears, nose, throat, gums, tongue, mouth, stomach (in vomits), bowels (in stools), bladder and urinary passages (in urine), and the skin of head, face, eyelids, external ears, neck, chest, abdomen, arms, legs, palms, soles, fingers and toes. The bleeding occurred at all the above-named sites except perhaps bowels and urinary organs, at a time at irregular intervals whether the patient was awake or asleep. It oozed or streamed through his mucus membranes and the pores of his skin like sweat, without giving rise to an apparent rupture on the external surface or ecchymoses and petechial spots. His capillaries had become fragile or over-permeable and his blood peculiarly fast in colour. The clothes and the skin stained with his blood did not discharge the scarlet red colour with soap and water. The washerman washed such clothes by his usual heating and steaming process some twenty times in the subsequent year, but the colour although rendered much fainter did not disappear completely. The blood did not seem to mix or dissolve in water. Its coagulation-time was lengthened very appreciably.

This patient had no affection in connection with his joints like other haemophiliacs. There was no history or sign of any vene-

real disease acquired or hereditary. The Wassermann's test could not be performed, but anti-syphilitics produced no beneficial effect. Calcium lactate and haemoplastrin stopped bleeding temporarily in the beginning of the disease but afterwards proved to be of no avail.

In September 1923, some ten months after the commencement of bleeding, the boy began to get fits of unconsciousness with foaming of saliva from mouth and jerking of limbs resembling Epilepsy. The duration of every fit continued to increase gradually until it used to occupy half an hour. The number of such fits also went on increasing until it amounted to six every day. The boy was confined to bed in an extremely emaciated and debilitated condition. There was no pain or tenderness about his bleeding parts and surfaces, except a vague aching and heavy sensation in his chest now and then. The slight strain of occasional coughing, which was never forcible or excessive brought about bleeding from mouth, the blood discharged amounting to about two ounces at a time.

All sorts of medicines including the Vaidic ones had been tried on him by the medical practitioners of repute. Ultimately he was given up as hopeless and incurable.

On November 1923, he was handed over to me for treatment with Ayurvedic medicines. When I found his stomach extremely irritable and intolerant of medicine and water, I administered the Vaidic medicines per rectum as enema. I found no occasion for giving him any hypodermic or intravenous injection. Through God's grace the boy began to improve with the first dose, and in one week's time his fits of unconsciousness disappeared in a miraculous manner. In the following week, his bleeding also stopped permanently. He did not require medication any longer than two months. It is now more than one year since no recurrence of the complaints has been observed in him. The boy has not only gained in flesh and strength but has actually overgrown his sister, who was taller than him although younger in age by one year and a half.

Those who may have any doubts about any one of my statements are welcome to make enquiries of the patient's father, M. Jainti Prasad Ashthana, Peshkar, Collectorate, Bareilly.

Treatment.—The line of treatment adopted in this case was पित्ताहतवातविषिः and had to surmount the difficulties which run as follows :—

1. The medicines likely to control his bleeding aggravated his epileptiform fits in severity, number and duration, on account of increased congestion and irritation of his brain ; whereas the remedies suitable for his convulsive fits increased his external haemorrhage.

2. The patient could not afford to lose blood any more and in case the external haemorrhage were checked abruptly, there was grave danger of increased tension and internal haemorrhage occurring in the meninges of the brain with paralysis and even loss of life.

3. Erroneous and misleading texts have crept in the tests of healthy blood and its differences from the vitiated one in some of the standard works on Ayurvedic medicine. Sushruta writes in his Chikitsa-sthanam, Adhyaya 34—

जीवशोणितरक्तपित्तयोश्च जिज्ञासार्थं तस्मिन् पित्तुप्लोतं वा च्छिपेत् ।

यद्युक्तशोषोदकप्रचालितमपि वस्त्रं रक्षयति तज्जीवशोणितमवगन्तव्यम् ॥

That Sushruta means pure and wholesome blood from जीवरक्त or जीवशोणित is evident from the following, in his Sutrasthanam, Adhyaya 14—

देहस्थरूधिरं मूलं रूधिरेणैव धार्यते ।

तस्मात् यथेन संरक्षयं रक्तं जीव इति स्थितिः ॥

The same error is found in Ashtanga Sangraha, Sutrasthanam, Adhyaya 36—

नवाम्बुशारीरमाहारभूतं रसाख्यमविकृतमविकृतेन तेजसा रक्षित-
मिद्गोपाकारं च.....धौतं च विरक्ष्यमानं प्रकृत्या रक्तमाहः ।

Contradictory to these, one finds reliable texts in Charaka and Astanga Hridayam. Charaka in his Siddhisthanam, Adhyaya 6 writes :—

अतितौक्षणं मृदी कोष्ठे लघुदोषस्य भेषजम् ।

दोषान् हृत्वा विनिर्मय्य जीवं हरति शोणितम् ॥ ४० ॥

* * * * *

शुक्रं वा भावितं वस्त्रमाधानं कोष्ठवारिणा ।

प्रचालितं विवर्णं चेत् पित्तं शुद्धन्तु शोणितम् ॥ ४१ ॥

and Vaghbata in his Ashtanga Hridayam, Kalpasthanam, Adhyaya 3, writes the following :—

अतियोगाच्च भैषज्यं जीवं हरति शोणितम् ।

तज्जोवादानमित्युक्तमादत्ते जीवितं यतः ॥

* * * * *

शुक्र वा भावितं वस्त्रमाधानं कोष्णावारिणा

प्रक्षालितं विवर्णं स्यात् पित्ते शुद्धन्तु शोणिते ॥ १८ ॥

The less intelligent Ayurvedic physicians could not glean the truth from contradictory statements, and could not discern the proper needs of the patient as regards the stopping and continuing the loss of his blood.

4. The patient's nerves were so very sensitive during the first week of his treatment under me that even the sight of an ugly medicine (e. g., black pill) excited nausea and vomiting with further loss of blood and energy.

5. According to Charaka and Sushruta, a case of *Raktapitta* and *Apasmarā* like the one under consideration, is considered hopeless and incurable.

यत्क्षणमथवा नीलं यद्वा शक्रधनुष्प्रभम् ।

रक्तपित्तमसाध्यं तदाससोरञ्जनं च यत् ॥

(चरक, निदानस्थानम् अः २ ।)

यदा तु सर्वक्षिद्वोभ्यो रोमकूपेभ्य एव च ।

वर्त्तते तामसंखेयां गतिं तस्या दुरन्तिकीम् ॥

(चरक, चिकि०-स्था०अः ४)

खेभ्यः सरोमकूपेभ्यो यस्य रक्तं प्रवर्त्तते ।

पुरुषस्याविषार्तस्य सद्योजहग्रात् स जीवितम् ॥

(सुश्रूत, सु०-स्थान, अः ३१)

व ह शोपस्मरञ्जन्तुः प्रक्षीणं चलितभ्रुवम् ।

नेत्राभ्याच्च विकुर्वाणमपस्मारो विनाशयेत् ॥

(सुश्रूत, सु०स्था०, अः ३२)

Details of Treatment.

1. DIET :—

When the boy came under my treatment, he was being given no diet but milk. Salt had been excluded from his dietary for the preceding nine months. I gave him a fair allowance of rock-salt in the soup of *mudga* (or *adhaki* with a little tamarind), the best quality of old *hansraj* rice, and *mudga* pulse and rice mixed and cooked together as *Khichri*, milk and *Kshira* (pudding)

of milk and मखात्रम् (butter) sweetened with sugar were also given. Among fruits he was given गोक्षणी द्राशा, murakka (dried grapes), sweet pomegranate, green cocoanut and its water enclosed within it. Among green vegetables, he was given वास्तुकशाकम् and तथुलीय शाकम् in moderation. Pea soup was allowed as well, but it did not suit the patient as it tended to induce flatulence. Some 3 or 4 days after the cessation of fits, he was given other articles as well cautiously.

2. MEDICINES.—

A few minutes before food, he was given powdered Pippali $\frac{1}{2}$ to 1 masha with honey for one month. Sometimes a little Hingnadi churna with the sour juice of dadimi (pomegranate) was also allowed with meals.

एलादिवटी as described and enjoined by Charaka under चतुर्जीवनचिकित्सा was tried on the first day but was discontinued as useless. He was then given चतुर्जीति infusion followed half an hour afterwards with गिरजारसबटी three times a day, in alternation with the decoction of the following :—धन्याकम्, ऊशीरम्, गुडूची, निम्बत्वक्, रक्तचन्दनम्, दुरालभा, पर्पटकम्, पद्मकम्, sweetened with honey every time, three times a day. Slight modifications were made in the composition of the decoction as occasions demanded.

Once or twice a day, he was also given मध्य (thick beverage) of द्राशा, धावीफलम् and शर्करा during the first week.

After the 1st week he was given लोधुचूर्णम् and वालाचूर्णम् with milk or water every evening. This was continued for two months. When digestion and appetite had improved in the first week, he was given an अवनेह of काकोली, क्षीरकाकोली, शताब्दी, ब्राह्मी, पिप्पली, गोदुङ्गम्, घृतम् and शर्करा about 1 tola each time, once or twice a day.

Whenever his stools hardened, suitable combinations of 2 or 3 of the following were given :—एलावालुकम्, विश्वभेषजम्, चतुरंगुलम्, हरीतकी, द्राशा and विहता।

Once in the course of treatment when persistent vomiting and bleeding could not be checked, he was given an enema of the following per rectum :—चतुरगुलम्, ऊशीरम्, सूजा, राशा, मधुकम्, कलिङ्गका, गोदुङ्गम्, एरण्डतैलम् and मधु। The quantity of this enema was eight chhataks.

The infusion of *chaturjata*, the decoction of the medicines enumerated above, Girija-rasa-vati and the evening powders of lodhra and bála were continued for some two months.

PURGATIVES IN AYURVEDA

BY

KAMALAKANTA SHARMA

Of all the purgative drugs described in Ayurveda we find (1) the roots of the red variety of *Trivrita* (*Teuri*—*Ipomoea turpethum*), (2) the bark of the red variety of *Lodhra* (called *Pattika Lodhra*—*Symplocos racemosa*), (3) the fruit called *Haritaki* (Chebulic Myrobalan,) (4) the oil of castor seeds, (5) the fresh expressed juice of *Karala* leaves (Hairy Mordica), (6) the milky exudation of the *Sudha* plant leaves (*Mañasa Shij*—*Euphorbia Neriifolia*) are considered as the most effective and here we shall describe the methods of their administration.

USES OF TEURI (TRIVRIT) AS A PURGATIVE IN DIFFERENT CONDITIONS:

Select only the full grown, fresh and healthy roots, soak them in the expressed juice of the purgative drugs described above, and then dry and powder them. Take a dose of this powder, mix with a sufficiently large quantity of rock salt and pulverised dry ginger and administer with either sour rice gruel or curd. This *Yoga* (mixture) will prove effective in constipation due to the disintegration of *Vayu* in the system.

The above powder, when administered mixed with (1) sugar or treacle (obtained from sugarcane juice) or (2) with decoction of the drugs called *Kákalyádi Gana* (*Madhurádi Group*—Saccharine drugs—beginning with *Kákoli*—*Gymnema Balsamicum*) or (3) with milk acts effectively in constipation attended with the derangement of *Pitta* in the system.

In constipation attended with the derangement of *Kapham* in the system the same powder should be administered with either (1) expressed juice of *Guduchi* (*Tinospora Cordifolia*) or (2) expressed juice of *Arista* (*Neem*; *Azadirachta Indica*) or (3) the decoction of *Trifala* (the three Myrobalans) or (4) the pulverised *Byosha* (ब्योष) (*Trikatu*: Dry ginger; long pepper and round pepper).

IN CONSTIPATION OR DISEASES DUE TO THE DERANGEMFNT OF
VAYU AND KAPHAM :

R/

(1)

Trivrit powder	...	... 1 part
टारुचिनि—Cinnamon powder		
तेजपत्र—Leaf of Lourus Cassia		
एलाइच—Cardamom		
गृगठी—Dry Ginger		All combined in equal
पिपली—Long Pepper		doses one part.
मरीच—Round Pepper		
and Old Treacle		

Mix well and administer.

R/

(2)

Decoction of Trivrit ...	... 4 seers.
Pulverised roots of „ ...	... $\frac{1}{2}$ „
Rock salt ...	... 2 tolas.
Dry ginger powder ...	... 2 „

Mix and boil, till reduced to the consistency of a thick gruel and then administer. The dose should be determined by the attending physician to suit the condition of the subject.

R/

3. Pulverised Teuri roots ...	... 1 part
„ Dry ginger ...	... $\frac{1}{2}$ „
„ rock salt ...	... $\frac{1}{2}$ „

Mix with cow's urine and administer.

PURGATIVE FOR GENERAL USE.

4. Pulverised Trivrit root	... 1 part
„ Dry ginger	... 1 „
„ Chebulic Myrobalan	1 „
„ Betel nut	ाा.
„ Baberang seeds	„
„ Round pepper	„
„ Cedrus deodara wood	„

Mix well and administer in proper doses with pulverised rock salt and cow's urine.

It is advised (1) to pulverise the purgative drugs in proper proportions and then to mix them well and rub with their expressed juice

or decoction and then to make them up into pills of the required doses ; or (2) to mix them with clarified butter in the form of a confection and administer in proper doses, or (3) to prepare a confection of the pulverised drugs with boiled treacle (treacle—one part, powder $\frac{1}{2}$ part); when cool, powder of cinnamon, cardamom and leaf of lorous cassia should be mixed and the resulting confection kept aside in a well covered vessel, to be administered in indicated doses whenever necessary.

4. Take one part of any of the purgative drugs, spoken of above—mix with four parts of decoction or fresh expressed juice of the same drug and boil in gentle fire ; at the same time one part of powdered wheat flour should be steamed in the fumes of a separate quantity of a similar boiling decoction or juice, and when ready should be rubbed with a quantity of clarified butter and again mixed and boiled with the same decoction. A quantity of treacle should then be boiled in a separate vessel and when ready, the decoction-treated flour and pulverized purgative drugs should be mixed with it and when the mixture assumes the form of a confection, the vessel should be taken out of the fire and allowed to cool. This confection or "*Modaka*" should be mixed with aromatic drugs and then administered in proper doses.

PURGATIVES PREPARED AND ADMINISTERED AS FOOD.

Mudga (Moong pulse) boiled in the decoction of purgative drugs, and then administered with the addition of rock salt and clarified butter, acts well as a good purgative. Soups of Masura and other pulses may be prepared in the same way and administered as a purgative.

Emetic drugs may be prepared with pulses in the same way and administered in the form of soups whenever occasion arises.

A RELISHING PURGATIVE FOR PITTAJA CONSTIPATION (ARISING OUT OF DERANGEMENT OF PITTA.)

Cut a portion of sugar cane longitudinally and place pulverized white *Trivrit* root inside and cover in the usual process of *Putapuk* (closed crucible). Tie up well with *Kusha* grass (*Pôany cynosurides*) and cover with a coating of clay, and burn in gentle cow-dung-cake fire. When well roasted and cooled, squeeze out the juice and administer. It acts as a cooling purgative to the patient.

PURGATIVE FOR FEVER CASES WITH EXTREME THIRST AND
BURNING SENSATION.

R/

Sugar

Pulverised खनयनिन् (Seseli Indicum, Beng. *Rāndhuni*, Sans.*Ajāmodī*)

,, Bamboo Manna

,, मूसिकुपाल (Batatas Paniculata)

,, Trivrit ा. ा.

Mix well with clarified butter and honey and administer in the required doses.

A MILD PURGATIVE FOR DELICATE PEOPLE.

Trivrit powder one part

Cardamom ,, $\frac{1}{2}$ "

Leaves of

Lourus Cassia $\frac{1}{4}$ "Round pepper $\frac{1}{4}$ "

Mix with honey and sugar in adequate quantity and administer.

ANOTHER PURGATIVE IN PITTYAJA CONSTIPATION.

Sugar 8 tolas

Honey 16 ,,

Boil in gentle fire and when the mixture assumes the required consistency, add to it 6 tolas of *Trivrit* powder and when well mixed, take out of fire. To be administered when cool.

N. B. — Honey when heated in fire is an incompatible combination, but on this special occasion it will not cause any injury, because a purgative when administered internally does not remain sufficiently long in the stomach or intestines to give rise to any untoward effect.

AN EFFECTIVE PURGATIVE IN CONSTIPATION OF KAPHAJA TYPE.

R/

Pulverized Trivit

,, बड़दाक (Gmelina Asiatica)

,, यवचार (Carbonate of Potash)

,, Dried ginger

,, Long pepper

Mix well with honey and administer.

(To be continued).

Reviews & Notices of Books.

Organotherapy in General Practice :—

Published by G. W. Carnick Co., 417—421, Canal St., New-york City. Price \$ 2. Can be had of the publishers or from Messrs. Muller & Phipps, 14, Greene, St., Bombay.

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CORRESPONDENCE.

To

THE EDITOR,

JOURNAL OF AYURVEDA,

CALCUTTA.

SIR,

I should like to make a few remarks about the article "Rabies in Ayurveda" by Kaviraj Shibnath Sen which appears in the February number of the Journal of Ayurveda.

In the article the following paragraph appears :—

"I earnestly request workers in Pasteur Institutes and other medical men who happen to read this article to be on the look out if they ever get a cause of Idiopathic Hydrophobia, where no history of any bite within a period of two or three years or more can be reasonably traced".

The reason for this request is that Susruta was of the opinion that sometimes, though rarely, a man who has never been bitten or even licked by an animal gets the disease and dies from it.

I may state that all the Pasteur Institutes in the world for the last 35 years have been on the look out for such a case but so far not a single authentic one has been published. Susruta in this particular matter was probably mistaken in his diagnosis. Anyway the very rarity of the occurrence would make it of small importance. The important point is that death from the symptom-complex called Hydrophobia never, so far as we have experience, occurs except after infection by some means with the virus of rabies, generally by the bite of a rabid dog.

It is quite true, as the Kaviraj says, that Western medicine is not able to determine whether a person bitten by a rabid animal will develop hydrophobia or not. There are three points to be considered in this connexion :—

- (1) The saliva of the biting animal may not be in an infective condition for man at the time of the bite.
- (2) Too small a dose of the virus to cause infection may be introduced.
- (3) The natural defences of the person bitten may suffice to destroy the virus.

Western medicine has no means of deciding whether one or more of the above conditions is responsible for the escape from Hydrophobia of a person bitten by a rabid animal.

The Kaviraj hints that Susruta has described a method by means of which it may be ascertained whether a person bitten by a rabid animal has been infected or not and that there is a drug which will destroy the virus which has been introduced by the bite and thereby avert the outbreak of hydrophobia and the inevitable death of the person bitten.

He goes on to say that "if the method can be well formulated and tabulated it will be a treasure". Quite so; all will agree not that it will be, but that it may be, a treasure. It is quite useless however to write this sort of thing and leave the tabulation and formulation alone.

As the Kaviraj has made this announcement it seems to me that it is his duty to the medical world forthwith to explain exactly what the method is so that it may be tested and adopted if it shall be proved to be of worth. He will then have deserved the thanks of numberless people who at present prefer to undergo a troublesome treatment to taking the risk of dying from hydrophobia because no one can tell them whether their lives are at risk or not.

Yours Faithfully,
R. CORNWALL.

LIEUT.-COL., I.M.S.,
Director, Pasteur Institute, Coonoor.

शारीर परिभाषा ।

ANATOMICAL NOMENCLATURE

BY

MAHAMAHOPADHYAYA KAVIRAJ GANANATH SEN,
SARASWATI, M.A., L.M.S.

*(Author of प्रत्यक्षशारीरम्—Text Book of Human Anatomy in Sanskrit.)
(Continued from the last issue).*

GENERAL TERMS—(Osteology).

अस्थिशारीर (साधारण संज्ञा) ।

[Terms marked with an asterisk (*) occur widely in Ayurvedic Literature].

Trunk—Bones of (58)

Hyoid bone (1)	कण्ठिकास्थि
Clavicle (2)	अचकास्थि *
Scapulae (2)	भंसफलक *
Spine	पृष्ठवंश *

Vertebrae (24)

Cervical (7)	योवा-कशेरुका
Dorsal (12)	पठ-कशेरुका
Lumbar (5)	कटि-कशेरुका
Sacrum (1)	तिकास्थि *
Coccyx (1)	अनुविकास्थि

Os. Innominatum (2)

Sternum	श्रीणिफलकास्थि
Ribs (24)	उरोश्लिं, डरःफलक

Upper Extremity—Bones of

Humerus	प्रगल्हास्थि
Ulna	अल्नः-प्रकोष्ठास्थि
Radius	बहिः-प्रकोष्ठास्थि
Carpal bones (8)	करकूर्चास्थि, करतलाकाषिठान *
Scaphoid	नैनिस
Semilunar	अर्जुचन्द्र
Cuneiform	उपसक

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RENAISSANCE OF AYURVEDA.

Lord Ronaldshay, the Ex-governor of Bengal, recently spoke at a meeting of Indian Students Union at London (February 13th, 1924) that—

"India is at present at the cross-roads regarding her culture and spiritual outlook. India had to determine the extent to which contact with the West was to influence her future development. If she followed exclusively the Western road, she would cut herself off from its own racial genious and become a mere mimic and mummer without a soul. The other road will lead to stagnation and decay. Great statesmanship was so to mould Indian education as to hold the scales between these two opposing influences. Anything done to shape the future of India must be done in the spirit of those who endeavoured to weave into the pattern of eastern loom some threads and spindles of the west which would enrich it without altering its pattern".

This is a most statesmanlike pronouncement and is applicable to every department of our national life in the present day.

Turning to Medicine in our country we find on the one hand the majority of Europeans who are Allopaths are decrying Ayurveda while on the other the old orthodox Ayurvedists would have nothing to do with Allopathy with its most up-to-date progressive ideas. Fortunately there are a few Indians and one or two Europeans who are thinking how best to remodel Ayurveda, the medicine of the Indian mass.

At the outset it must be mentioned, as pointed out by Captain Srinivasamurti that the old orthodox Ayurvedists by refusing to have anything to do with Allopathy are

going against the spirit of Charaka, *viz.*; "The wise should listen to and follow the counsels of even an (professional) opponent, when they are instructive, praiseworthy, calculated to promote health and life and well-suited to the conditions of the people"

No one can deny that we do not possess the health of our ancestors. Things have considerably changed. To be in line with progressive changes in different spheres of life, the old medical system also requires changes and modification to suit modern needs and many recent improvements need to be incorporated to rejuvenate our national medicine. If one studies the history of progressive development of Ayurveda he will find that the Ayurveda of Charaka and Sushruta (Vedic period) differs much from that of the Tantrik School, the latter differing again from that of the latero-Tantrik period and that again from modern Ayurveda of Bhava Misra and Chakradutta.

If these successive changes had been welcomed by our ancestors, is it desirable that we should stagnate and move on old ruts in the present day? Every old structure requires repair and modification or we would one day wake up and find the whole edifice tumbled down and destroyed for ever. Is it desirable that this calamity should befall Ayurveda?

Considering that we have a very formidable rival in Allopathy, can we stand on our own legs unless we improve Ayurveda and make it up-to-date? Is it desirable to follow the "traditional path" which in many respects is so unsuited to modern times and can not lead us to the path of progress however glorious the result had been in past ages.

With the first excitement and dazzle of Western civilization, we rejected everything ancient. With the Swadeshi movement, reaction has come with a vengeance and we are rejecting everything modern. Is this the proper policy to follow? Is it not desirable to put our house in order?

Are we to throw out all our useful modern possessions and retain all our old things good and bad?

It is our bounden duty towards our successors to judiciously blend what is best in both the Eastern and Western Systems of Medicine and to evolve a modern system of Ayurveda which will not only stand on its own legs, but will be an object of admiration to the scientific world at large.

If we read Indian history aright we find that India has a peculiar genius to absorb new ideas and judiciously and harmoniously blend these in its own pattern, so that the result is often an improvement on the original source. Indian civilization would have perished long ago like Egyptian, Babylonian, Assyrian and other old civilizations if India had not absorbed new ideas and modified them to suit its own changing needs. The same is true of Hindu religion, Hindu Medicine and every activity of Hindu national life. Mahamahopadhyaya Gananath truly said on a previous occasion that "application of modern methods to our present-day Ayurveda would certainly enhance its value and raise its status in the eyes of the whole world."

Every medical system is imperfect. Each has its uses and limitations. None can say that his own system is the best of the lot. Such a dogmatic statement will redound on its author and betray his unscientific spirit. The object of the different systems are the same. Each system has for its object the study of health and ill-health though there might be differences in methods. Fundamentally there is no differences. Each will improve with the aid of the other. The true spirit will be one of give and take.

Major Knowles, the associate Editor of the *Indian Medical Gazette* has very nicely developed this idea as follows :—

"The practitioner of western medicine is wont to hold the Ayurvedic system in contempt simply on account of his ignorance. It admittedly has tremendous defects ; its anatomy and physiology are crude ; its practice of midwifery and

surgery has long ago been forgotten ; it has no pharmacology--yet its merits are greater than demerits; it has age-long traditions, it is deep rooted in the customs and habits of the people ; its dietetics are based upon Indian dietaries and meet Indian requirements as to caste, creed and constitution : while many of its leading practitioners are men of great clinical acumen and skill. As yet text books on Ayurvedic medicine are few and scanty. The practitioner of the western medicine would do better to study and take from it what is good.

The same may be said of Ayurvedists also.

Again—

"Medicine should be international and not merely national.—It has no room for narrow sectarian or national jealousies.....what is desirable is that what is good in both the systems should be combined. Ayurveda shall learn anatomy, physiology, modern midwifery and surgery, and present day experimental pharmacology from the Western system. Western medicine should study the dietetics, the methods of health cultivation, the drugs, the special methods of Ayurvedic treatment..... It is desirable to take up from each what is best, to build up gradually, little by little, and line upon line, a true universal (yet) Indian system of medicine with its own medical literature, its own indigenous pharmacopœia, its own teachers moulded and adapted to the real needs of the country and its people..... It will be no isolated and segregated system but of international medicine of the future adapted to local requirements".

It is the bounden duty of every medical man in India to guide the indigenous system of medicine to attain the above-vestated high ideal.

For rejuvenation of Ayurveda it is not enough to ask Government to subsidise Ayurvedic hospitals and dispensaries only. Such a "policy of drift" which is taken up by several provinces except perhaps Madras "will lead us no-where". The Astanga Ayurveda Vidyalaya of Calcutta is following a policy of taking up what is best in the Western System and incorporating it in our old Ayurveda with a view to rejuvenate it. For outsiders it is a sad thing to find the new and old schools of Ayurveda fighting against each other, losing sight of the highest ideal state which Ayurveda is bound to attain in no time.

Prof. Kalokhe of Prabhuram Ayurvedic College Bombay has stated as follows :—

"The physicians of the Ayurvedic School should not be averse to adopting any new discoveries that might be made by others. It would cer-

tainly be unwise on their part to ignore the discoveries of others and deprive themselves of the benefits accruing therefrom. The injunction of Ayurveda is distinctly clear on the point. It explicitly lays down that one should ever be ready to recognise and accept any new discovery that may be made, be the maker of the discovery who may be. Those who are labouring under the impression that what our ancestors have written is not possible to improve upon or supplement or reject any part thereof, so it is a sacrilege to make an attempt in those directions—to those I must emphatically say that no error can be greater than this and the sooner it is rectified the better."

We hope and trust that those in whom the destiny of the future of Ayurveda is placed will remember the very ideal of Ayurveda which is also the ideal of this Journal, viz., नात्मार्थं नापि कामार्थं अथ भूतदयां प्रति, and not be guided by other motives based on questions of personal considerations, and thus put obstacles to the clear-cut path of true regeneration of Ayurveda, which may only be attained by self-less attempts on their part. Let Ayurveda remain Ayurveda in its pattern and spirit, incorporating within its fold the lost sections from modern scientific knowledge.

A.

All-India Vaidya Sammilan.

The third sitting of the All-India Vaidya Sammilan commenced on April 10th at 8 a.m. Discussion over the names of controversial aspects of certain herbs took place. The final decision was given regarding some, while others were postponed for the next session. The session affairs commenced in the afternoon at 3 p.m. Some essays were read, and Diplomas were given to candidates who were declared successful last year. They took their oath in a body to render public service. Nine more resolutions were passed to-day; besides, the election of members of the Standing Committee and offici-holders took place and the Head office was transferred from Madras to Cawnpore with Vaidyaraj Dr. Prasadilal Jha as General Secretary and Pt. Kishan Datta Shastri as Secretary of the Ayurveda Vidyapith. The next session was invited to Jaipore and accepted unanimously. The proceedings terminated with a vote of thanks to the president.

Original Articles.

STEPS TOWARDS THE AYURVEDIC RENAISSANCE *

BY

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(Concluded from the last issue.)

TWO METHODS OF SCIENTIFIC INVESTIGATION.

Now, there is one initial difficulty which stands in the way of the Eastern and Western Scientists properly understanding each other, arising largely from the fact that the methods of scientific investigation pursued by the East and the West are so different. May I, with your leave, reproduce here what I have written elsewhere on this very subject. "The methods by which the Hindus sought to recognise things beyond the range of our senses, differed in one vital respect from the methods of the West; in Modern Science, we seek to overcome the limitations of our senses by equipping ourselves with various *external* aids like the microscope, telescope, the spectroscope, the crescograph, cardiograph and the like; the Hindus however, sought to effect the same results, not by providing their senses with external aids but by improving their own internal organs of senses, so that their range of perception may be extended to any desired degree. It is claimed, for instance, that when they taught about the structure of Atom, they did not merely speculate in the matter, but described what they really saw. So far as I am concerned, I have the privilege of knowing some persons who can use such vision; I also know that even the West has now begun to talk of "Extra-sensorial channels of knowledge or cryptesthesia" (Hidden or Occult sensation) though a great many of the Weastern Scientists still pooh-pooh our notions of the sixth sense and the like. Yet, it is a significant sign of the coming times that, urged by the irresistible force of experimental facts, no less an eminent authority than Dr. Richet, Professor of Physiology at the University of Paris in his address to the last international Congress of Physiologists at Edinburgh propounded his

belief in hidden or occult senses in the following terms :—The subject of my discourse to-day is very revolutionary, and I expect to meet with severe criticism. But I would say in the words of Themistocles "Strike, but listen." The thesis which I wish to sustain and prove by the experimental method is that there may be a knowledge of reality obtained by other means than by the ordinary channels of the senses. It is the universal opinion that we can have no other notion of the reality that surrounds us except through our five senses, and that fact must remain for ever unknown unless sight, touch, or vision has revealed it to us. This is the classic and at the same time popular idea. To admit that a knowledge of occurrences can arrive at our consciousness by any other means than those of the senses, is a daring and revolutionary proceeding, and yet this is the thesis that I am about to maintain. (Then follow the records of a series of observations, after which Dr. Richet proceeds to observe thus) "But, however important these observations, which would suffice alone by their number and precision to make us admit that we are endowed with a hidden form of sensibility which I call "Cryptesthesia", there is a whole mass of still stronger evidence to demonstrate its existence".

It must be admitted, however, that so far as furnishing us with evidence of direct observation is concerned, the ancient Hindu method is of value only to those great seers who could see for themselves and not for others ; to these latter, it could be offered only as a good working hypothesis (or Kalpana), to which they are free to apply the various tests of a valid hypothesis before they accept it ; herein lies the difficulty of the Hindu method ; because the perfecting of the senses to the desired degree can be achieved by only those individuals who are fit and ready to undertake the discipline—physical, moral and mental—which that method demands. Herein also lies the immense value of the external aids which Western Science provides us with ; for, many of us can learn with ease how to use them in checking and verifying things for ourselves ; and that is an advantage of very great value. It is for this reason that the Hindu theory of the genesis of Atoms conveys to us a fuller and clearer message when it is studied in the light of Modern Science ; and what applies to the Atomic theory applies generally to the whole realm of Ayurvedic Physics and Chemistry, and it seems to me that the light of modern physical and biological sciences would be very valuable to Ayurvedists in the interpretation of their own ancient theories, besides affording them comparatively

easy methods of verifying things for themselves. It would likewise be a consummation devoutly to be wished that some at least of the giant intellects of Modern Science would conduct their researches along the lines indicated by the ancient speculations ; for some of these have already been justified by modern researches ; and that makes us hope that the same may happen in the case of others as well. It is therefore that I venture to hope that, in the best interests of both Ayurveda and Modern Medicine, each would learn from the other what the other can teach, so that by their united thoughts and endeavours, they may better serve not only the cause of Science, but also, of what is more important, Humanity as a whole.

If I am asked to mention a few topics where such united efforts and co-operation are eminently desirable, I may mention the following :—In the realm of physical sciences, we may well study our ancient Darshanas, like the Samkhya and the Visheshaka, in the light of modern Physics—especially modern Atomic and Astronomical Physics ; so too, our Rasa Tantras—more especially the works of our Tamil Siddha School—may very profitably be studied in the light of Modern Chemistry. In the realm of the Biological Sciences, we may pass on from the study of the cell (where Western Physiology ends or shall I say used to end till very recently) on to the study of Thridoshas, Panchabhutas, Trigunas and, may be, to that which is *Many* in the *Vyavaharic* realm and *One* in the *Paramarthic* ; from the study of the five senses and the waking consciousness of Modern Science on to the study of Chakras, “the extra-sensorial channels of knowledge” and the Swapna or dream consciousness which western psychologists have just begun to recognise and other higher vehicles and states of consciousness which are not yet recognised by our Western brethren but about which there is much valuable information in our Tantrik and Yogic literature ; so too it would be a fascinating and most useful pursuit to study our Thridoshic Physiology and Pathology in the light of their modern counter-parts more especially Bio-Physics, Bio-Chemistry, Endocrinology and Psychopathology ; our ancient theory of prakritic differences among individuals with the modern classification into vago-tonics, sympathetic-tonics and so on ; our ancient theories of metabolism, heredity and evolution in the light of their modern counterparts ; our ancient diagnostic methods where skill in clinical methods play so prominent a part with the modern counterpart where skill in laboratory and instrumental methods is assuming an increasingly greater importance ;

Our pharmacology of Dravya-Rasa-Guna, Veerya-Vipaka and Prabhava, with the modern pharmacology where active principles play so prominent a part ; our rules of dietetics, Personal Hygiene and Public Health with the modern notions on the same topics ; our methods of dietetic and medical treatment where we still hold our own and surgical treatment where we have lost ground, along with the modern developments in these directions—more especially of Surgery in all its branches ; and so on, the list may go on. But I shall not weary you any further by extending the list which, moreover, is intended to be only illustrative and not exhaustive.

I shall next proceed to deal with some of the live problems of the day which require your urgent and immediate attention.

Let me first take the question of finding suitable text books to observe the end which we have now in view. In a recent issue of "The Journal of Ayurveda" edited by the learned Mahamahopadhyaya Dr Gananatha Sen Kaviraj, he has made the following valuable suggestions to which I wish to invite the careful consideration of all interested in this subject : "The real necessity can be summed up in a few words. We have to collect all extent Ayurvedic works, some of which have come to light but recently. We have to compare and revise and edit these works just as Charaka and Sushruta Sanhitas were rescinded and re-edited in ages long gone by. We have to supplement these works with new text books written from the Ayurvedic standpoints and on the existing Ayurvedic foundations. We have to cultivate better regard for direct and practical knowledge. Above all till the new text books and reliable editions of old text books are available, we have to teach our students, liberally and according to up-to-date standards."

Another point which we have to consider carefully is in respect of the medium of instruction and the value of English to a student of Ayurveda. In regard to this subject, I wish to invite the attention of all interested to the considered opinion of the Madras Committee on the indigenous Systems of Medicine, which is as follows :—

"The general concensus of opinion among all the witnesses that we consulted seemed to be that, in the lower grades, medium of instruction should be the vernacular ; in the higher grades, however, some are of opinion that the classics in which the ancient texts are written should be the medium of instruction while the majority seem to favour the idea of demanding from the students a fairly high proficiency in the classical literature concerned, the question of using the classics or the vernaculars as the medium of instruction being left to the con-

venience of the professors and the students of any particular institution or linguistic area concerned." We are in general agreement with this latter view, as also with the idea of having the vernacular as the medium of instruction in all lower grades, a view which is now so universally accepted that we do not consider it necessary to labour the point any further.

There are two distinct questions that arise in respect of the value of English to the students of Indian Medicines ; firstly, its value as a medium of instruction for subjects of Western Science and secondly, its value as a medium for the acquisition and diffusion of whatever is valuable in European and American thought generally.

If, as we have indicated in the introductory chapter, the future students of Indian Medicine that we have in view are to be conversant not only with the subjects of their own special system but with the fundamentals of what is valuable to them in Western medicine also, including a study in the essentials of the Western scientific methods then the question arises as to whether this teaching is to be imparted through English or through vernaculars. The first alternative would necessitate the possession of at least a working knowledge of English on the part of the candidates, while the second would require suitable vernacular translations of English scientific works. It is true that at present there are very few suitable translations ; but if once the professors of the transitional period (who should, of course, be conversant with both English and the vernacular) begin to teach in the vernaculars, then it will not be long, we think, before the want is satisfied ; for the very notes of the Professor's own class-lectures would form the basis for suitable text books in the vernaculars.

If our future students of Indian Medicine are to keep themselves in touch with the progress of medical thought all over the world in general and over Europe and America in particular, then it will be necessary for them to be familiar with at least one European language whether English, French, German or any other ; and in our view, a knowledge of English is, on the whole, more valuable to us than any other foreign tongue, enabling us, as it does, to exchange ideas with practically the whole of our known world. In alluding to the value of English to the Bengali Medical student, the Calcutta University Commissioners state : "If it is true that an English medical man regards it as a serious handicap to be unable to read French or German, it would be infinitely more serious a handicap for a Bengali

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practitioner to be unable to read English." (Volume V., page 116). This statement would, we think, apply with equal force to medical practitioners all over India.

The whole question of the respective role of English and the vernaculars in any scheme of study for Indians is well summarised in the following note of Mr. Ramananda Chatterjee, the talented Editor of the *Modern Review*, quoted in the Report of the Calcutta University Commission, Volume II, page 256 : "My idea is that our students should learn English for culture, for purposes of interprovincial and international exchange of ideas, for keeping touch in all respects with the outer world, and for the acquisition of the latest modern knowledge. But for the perfect assimilation of knowledge in childhood and youth, for the thorough and rapid diffusion of knowledge among all ranks and classes of the population, for removing the recent but growing intellectual and cultural gulf between our men and women and between the classes and the masses, and for stimulating originality in thought and its expression and in scientific and artistic achievement in the largest possible number of persons, the use of the vernaculars in all grades of University Education is indispensably necessary. All objections have force only temporarily ; for the most highly developed modern languages and literatures were at first no better than Bengali. In their case development was obtained by use ; and it will be obtained in our case, too, in the same way." What applies to the Bengali student applies equally well, we think to the students of Madras. While therefore, we are emphatically for using the vernaculars as the medium of instruction, we are nevertheless of opinion that a working knowledge of English is desirable for all students of Indian Medicine, more especially for those preparing for the higher standard of proficiency.

Next there is the question of an authoritative identification of all our reputed herbs and the preparation of an authoritative pharmacopœia of standard drugs and preparations. The best way of doing this would be by constituting a Standing Committee of competent experts who should meet in conference as often as may be necessary and make themselves responsible for the issue of an authoritative Indian Pharmacopœia which, of course, may have to be added to and revised from time to time. This is obviously a big piece of work, which in the circumstances of our country, cannot be done satisfactorily without the active patronage and support of our Government and Local Boards ; of learned bodies like the Universities and

Research Associations and of wealthy individuals and the several religious and charitable endowments that exist throughout the length and breadth of this land of religious charity.

While on this subject of drugs, there is one question to which I wish to draw your special attention : now and again, we come across some good people who seem to think that there is nothing in Ayurveda except a few drugs and that, therefore, the best and only way of promoting Ayurveda is by founding a Laboratory of experimental pharmacology for carrying on experiments with indigenous drugs. I have dealt elsewhere at some length on the fallacy of this position and do not wish to repeat myself here except to say that, while modern experimental pharmacology may help us in understanding the Dravya of our drugs, it can tell us nothing at present about "Rasa" as Ayurvedists know it or about Veerya, Vipaka and Prabhava, which, so far as Western Pharmacology is concerned, do not simply exist while to us, they are things of the greatest reality and import. To say this is not to belittle the value of the great work done by Major Chopra and his colleagues at the Calcutta School of Tropical Medicine : on the contrary I feel that no praise is too high for the ability and the devotion of these earnest workers : we cannot be sufficiently grateful for the new light they have thrown on the action of Punarnava and the three other drugs, the reports of which have already been published. But consider, gentlemen, the time, the labour and the money required for this work. Let me quote from Major Chopra himself. Writing in the Indian Medical Gazette of March 1923, he says :—"The time and labour required to work out the chemical composition of a drug is enormous. This may be judged from the fact that it would take an experienced chemist about two or three months to isolate in a pure state and roughly state the nature of the different chemical constituents of a single crude drug ; the determination of the chemical constitution of the active principles concerned would take another two years, provided the chemist devoted his time entirely to one active principle. The isolation of a sufficient quantity of the active principles and testing them pharmacologically would take a few months. One can see that it will take years to complete the work on indigenous drugs which has now been started at the Calcutta School of Tropical Medicine. At present our work is seriously hampered owing to the fact that there is only one Professor of Chemistry without even an assistant ; under these conditions the work would take a generation to complete."

Considering that we have hundreds of reputed drugs in common,

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use, and considering also the fact that even in the hands of our devoted band of efficient and earnest workers, the work of investigating only four drugs has taken so many years, I venture to think that Major Chopra's estimate that it would take only one generation to investigate all indigenous drugs is too much of an under-estimate, unless, of course, he has in mind, a very large extension of his own laboratories at Calcutta or the opening of many other laboratories like his throughout India. It seems to me, gentlemen, that the question which every one interested in the promotion of our Public Health (and who is not) has to ask himself in this connection is this : having regard to the fact that there is an order of importance in Public Health subjects and having also regard to the fact that in this poor country of ours every pie that we can spare is firstly and most urgently required to provide the masses with the barest elements of sanitary existence like pure water, fresh air, tolerable housing, readily available medical aid and so on, is it a practicable proposition to think of multiplying pharmacological laboratories, which to be useful for our purposes, would cost us millions of money ? Moreover is it necessary that everybody everywhere should engage himself in the same kind of work ? Is it not a more practicable and profitable proposition that there should be a sort of division of labour, such that the workers at Calcutta may be helped to carry on their experimental work on a bigger scale, while workers elsewhere may go on working on the clinical side with the reputed drugs now in common use and place before the workers at Calcutta the results of their large clinical experience ? The idea of multiplying the same kind of very very costly institutions in every seat of research reminds one of similar attempts of our University-folk to carry on ambitious programmes (the wisdom and utility of which are now being seriously questioned) for developing all faculties and branches of study at every one of our University seats of learning ; thoughtful people are now asking themselves whether it would not be wiser for each seat of learning to specialise in something most suited to its resources and environments —Arts, the Physical Sciences, the Biological Sciences, the Mathematical Sciences, History, Medicine, Law, Engineering, Commerce, Agriculture, Technology and so on, instead of frittering away labour and money in impossible attempts at developing all branches, with the result that we will go on marking time, excelling in nothing save, perhaps, in that brand of all-round mediocrity which is good as a faithful imitator but poor as an original initiator.

Gentlemen, I am afraid I have taken too much of your time over

these discursive remarks ; I shall not therefore venture to trouble you over such questions as medical registration for practitioners of Indian Medicine, Schemes of our professional study and the like; which have been discussed at some length in the recent report of the Madras Committee already referred to. In our attempts to direct Ayurvedic studies and training along the lines which we have chosen and to work up to a magnificent future well-worthy of our mighty past, there are sure to rise various difficulties—both big and small, which we must be prepared to solve as they arise; theoretical perfectionists will warn us and such warnings have their uses and their proper place in our scheme of things—that until we get excellent teachers and more excellent text books, hospitals, laboratories and all other accessories, we should not embark on such a venture as that we have now undertaken ; but, the trouble of it is that we will not get excellent teachers and text books unless we begin to teach and train others and in so doing, teach and train ourselves to achieve from more and more, and to deserve all the other excellent things which, I feel certain, will come to us in their own aim good time and order. It is also likely that we may make some mistakes as we go along ; if we do, let us not be ashamed of recognising our mistakes and correcting ourselves as early and as best as we can ; there is no shame in owning a mistake ; but it is unspeakable folly to persist in it from a sense of false dignity or prestige. Then, too, there may arise other problems which may not all have been foreseen ; but, surely it cannot be beyond the wit of man to find proper solutions for them when they arise ; they are inevitable perhaps, but not insoluble. Not that I am in the least inclined to minimise our difficulties but I do think that there is no use in distressing ourselves over them in advance ; it is not always possible to think out beforehand all the difficulties that may arise in the future and make due provision for them all ; as practical workers we cannot afford to spend ourselves in pondering over all conceivable difficulties and “by fearing to attempt, lose the good we oft might win.” Many and many a time in history have problems which have remained insoluble to our doubting Hamlets and academical perfectionists become readily solved when taken up by our practical enthusiasts who meant business and were determined to dare and to achieve. Such are exactly the persons that are required for our present purpose—persons who can become fired with a noble ideal and moved to high endeavour by an uplifting idea. The supreme need of the hour is not so much a matter of money as of men—men who couple enthusiasm for ideals with the capacity required

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for translating them into practical achievement. Gentlemen, there are some good people who wonder why it is that Indians are so passionately attached to their own systems and so intent on improving and developing them, while, according to these good critics, it would be ever so much better if they abandoned these ancient systems in favour of the Modern Western Medicine. It does not seem to occur to these good people that if Indians are partial to their own systems and are keen on retaining and developing, instead of abandoning them it is partiality rooted in the very nature of things—a partiality from which spring some of the noblest sentiments which animate the human breast. But that love does not blind them either to the good of the Western system or to the need of improving their own. They do recognise the defects of their own system ; but this recognition makes them all the more determined to remedy them instead of scrapping them altogether in favour of any other.

It is indeed natural and right for men to love what is their own—to love what is, by the mysterious dispensation of Providence, indissolubly connected with themselves, their country, their religion and their culture. We need not be ashamed of this noble partiality so long as it does not blind us to our appreciation of what is good in other systems and institutions, or to our allegiance to those higher things of life such as love of our neighbours, justice, and truth.

Gentlemen, we are now living in strenuous times and at the beginning of a new era of immense potentialities when, in God's own good time, we will be required to bear efficiently not only the responsibilities attaching to our citizenship in our own Local centre—be it a village, town or city—but will also be required to solve the public health and other problems of wider areas of ever-increasing circumference—Taluk, District, Province, Country, Continent, Commonwealth and so on, till we come to the problems attached to that world federation of all nations, of which, the Poets have dreamt and the Prophets spoken. Already we are beginning to find that our public health problems are not only local but also provincial ; not only provincial but also national ; not only national but also international. Now, gentlemen, our medical education has got to be so planned as to fit us to play our part nobly and efficiently in promoting the welfare of not only our own locality, Province, Country, but also of that vast community of nations which is co-extensive with the whole of our humanity. Our present beginning may be quite humble and modest—it is perhaps well that it is so ; but, let us ever strive to follow, each in his or her own measure, the shining star of our high ideal, which ever beckons us to seek our highest joy in loving service to all beings and then gentlemen, our journey is safe and sure on the highway that leads us to immortality and bliss eternal.

ASTHMA IN AYURVEDA

BY

ASHUTOSH ROY L. M. S., HAZARIBAGH.

"*Swasa*" is the general name in Ayurveda, for any and every variety of respiratory embarrassment, primary or secondary, as a complication in various diseases. In every case of "*Swasa*," Vayu is irritated, hence it is a "Vayu"-disease (Neurosis), manifested in dyspnœa. Both "*Swasa*" and "*Hic-ca*" (Hic-cough) in Ayurveda arise from the same etiological factors.

ETIOLOGY.

1. Pure Vayu irritation in nervous individuals.
2. Vayu-Pitta ,, in sympathotonic ,,
3. Vayu-Kapha ,, in vagotonic ,,

Thus we see that every case is due to unmixed or mixed Vayu-irritation.

Different etiological factors irritate "Vayu" (Nerve) in different regions and induce *primary "Swasa"*.

The "*Udan*" (Naso-pharyngo-laryngeal) Vayu is irritated by dust or smoke and start an attack in neurotic individual;

The '*Pran*' (thoracic) Vayu is irritated in vagotonic individuals (exudative diathesis of German School) by exposure to cold, partaking of excess of cooling food or living in a cold damp place which induces an attack of cold in the chest.

The "*Apan*" (gastro-intestinal) Vayu is irritated in sympathotonic individuals (arthritic diathesis) by improper food or faulty digestion, by severe physical exercise or bearing a heavy load or undertaking a long tiresome journey in the sun, by repeated suppression of some calls of nature, e. g., urination, defecation, etc.

The Secondary or Symptomatic Swasa comes on as a complication in various diseases :

1. In various Vayu-Kapha fevers, e.g., with or without hoarseness and catarrh in Bronchitis (Bronchial asthma).
2. In various Sannipat fevers (all the three doshes deranged), e. g., in Pneumonia.

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3. In Phthisis.
4. In various Vayu irritation, e. g., associated with vomiting, with heart disease (cardiac asthma), in various nervous diseases, e.g., in Apasmar (hysteria, epilepsy), in Akshepak, (convulsions) in paralysis—"Urdhak-swasa."
5. In Rakta-Pitta, the leading feature of which is haemorrhage coming out of any of the orifices of the body.
6. In Pitta diseases, e. g., jaundice hepato (Pandu) or hematogenous (Kamala).
7. In worms of the intestines.
8. In various Vayu-Pitta diseases of the gastro-intestinal tract e. g., flatulence, indigestion, constipation with or without tympanites.
9. In constitutional diseases like Syphilis, Tuberculosis.
10. In Vayu-Kapha irritation of the intestines, e. g., in chronic diarrhoea and "Grahani" (Tubercular diarrhoea) and Sutika (Puerperal Diarrhoea).
11. In urinary disease (renal Asthma) associated with various "Mehas".
12. In certain skin diseases, e. g., Alasak (Lichen).
13. In infants and children as complication of whooping cough, diphtheria, Broncho-pneumonia, in eruptive fevers (Chhinna-Swasa).
14. As a terminal condition in various diseases (Maha-Swasa).

PREMONITORY SYMPTOMS.

1. Pain in chest, head and forehead in Bronchial type.
2. Flatulence in stomach, deep seated pain in abdomen, want of taste in mouth in gastro-intestinal type.
3. Suppressed urine and stool in renal type.

CLINICAL VARIETIES.

Five clinical varieties had been described according to etiology and symptoms :—

- I. *Kshudra-Swasa* (dyspeptic asthma). This is a mild type of the disease of the "Vayu" or "Vayu-Pittya" variety and is brought about by improper food, imperfectly digested food or exertion during digestion. This variety often changes to Urdhak or Chhinna-Swasa, when it is difficult to cure, otherwise not.

2. *Urdhak-Swasa*—This is a very severe form of dyspnoea of the "Vayu" variety. Here the inspiration is quick, while the expiration is very difficult. There is severe dyspnoea, with pain all over the body, the eye-balls roll upward, there is cyanosis of the face, and mental perturbation with diminution or loss of consciousness. The "Cardiac Asthma" of modern west comes under this category. It is difficult of cure and is often fatal.

3. *Tamak-Swasa* or true Asthma is either a "Vayu-Kapha" or "Vayu-Pitta" form of the disease. The former is aggravated and the latter relieved by cooling food and drink.

The coughing fit starts with tickling of the throat, often with wheezing and respiratory difficulty. There is much uneasiness, and swinging of the body (restlessness). The patient sees darkness all round (temporary loss of vision), speaks with difficulty, perspires on the forehead. He sits up in bed during the attack, cannot sleep as long as the fit continues, gets worse on lying down (orthopnoea). As a rule there is little expectoration. After a prolonged coughing fit, a little phlegm comes out and the patient feels a little relief. He now complains of pain in the head, neck and sides of the chest, feels thirsty and there is dryness of the mouth, severe prostration, often swelling of the eyes and eyelids.

Pratamak-Swasa—This is a severer form of the above variety with fever and often accompanied with loss of consciousness. It can be curable in the beginning, but later on, the attack can be suppressed or cut short by suitable treatment but can not be radically cured.

4. *Chhinna-Swasa*—It is described as a Vayu-Kapha form of the disease. The attack often comes on suddenly and the inspiration is difficult and often interrupted (apnoea). There is great effort on the part of the patient to take breath, with severe pain and distress, often epistaxis, swooning and restlessness, redness of eyes and flow of tears, cyanosis, anxious expression of the face and delirium.

The dyspnoea associated with this variety is interrupted (chhinna) as we find in diseases like whooping cough, diphtheria etc., in children, and mild or severe cheyne-stoke respiration of modern Western medicine. It is always dangerous and as a rule very difficult of cure.

5. *Maha-Swasa* is the worst form of the disease and is described as belonging to the Sannipatik group (the entire sympathetic Endo-

crine chain is affected). It comes on as a terminal condition and is rapidly fatal. The "uræmic type" of dyspnœa comes under this category.

The patient groans continuously with every breath which is long-drawn and agonizing. The groaning can be heard from a distance. The patient is generally emaciated, as it often comes as a late and fatal complication. There is repeated loss of consciousness, rolling of the eyeballs, dilatation of pupil, suppression of stool and urine. Speech is feeble, the mind weak and dull.

It is curious and interesting to note that Acton and Chopra of the Calcutta Tropical School divided Asthma cases into three types:—(1) purely Nervous, (2) (Vayu), Sympathotonics (Vayu-Pitta) and (3) Vagotonic (Vayu-Kapha) types. This classification therefore corresponds to the Ayurvedic classification of the disease. The old Ayurveda however clearly explains what particular etiological factors affect particular types of individuals and produce particular types of the disease. Both the diagnosis and treatment depend on the above classification of the disease in Ayurveda.

TREATMENT.

1. In the dyspnœa of *Kshudra-Swasa*, which is a Vayu-Pitta variety of the disease, give the following :—

Swasa-Kuthar, Swasa-Chintamani.

If this variety changes to the severe type, e. g., Urdhaka or Chhinna Swasa, give—

Brihat-Swasa-Chintamoni.

If with the aggravation of dyspnœa there is diminution or loss of consciousness, give—

Brihat Kapha-Ketu

Sleshma-sundar Rasa.

If dyspnœa is associated with tympanites first relieve the latter and check Vayu and then give specific medicine to relieve the reflex swasa, e.g., give Dasmul Kath with Oil Recini or Enema.

2. In *Chhinna* or *Urdha Swasa*, if acute, give—

Brihat Kapha-ketu

Sleshma-sundar Rasa.

To relieve severity of paroxysm, give—

Swasa-Chintamani

Brihat Swasa-Chintamani

Bhargyadi Kath

If phlegm—Sveda (Heat application) on chest.
Emetics, e. g., Tuthak jogā.

Avoid in case of children, old men, pregnant women and in weak chronic patients.

In Tamak-Swasa or true Asthma.

Acute stage—Vayu-Kapha deranged.

This variety is aggravated at night due to upsetting of Kapha (vagotonic condition). It is induced by acute coryza, by exposure in winter, by pertaking of excess of cold articles of diet.

Give antispasmodic smokes like that of—

Kanak Dhatura.

Also give Chandramrita Rasa.

Maha Lakshmibilas

Dasamul Kath with Oil Recini

Swasa Kuthar

Drakharista.

I. Acute stage—Vayu-Pitta deranged :—

Give :—Mahaswasari Lauha

Swasa-Chintamani

Swasa-Kasa-Chintamani.

II. (a) Chronic stage—Vayu-Kapha deranged (over 1 year old):—

Apply on chest—Basa-Chandanadi Taila.

Give :—Bhargi-gur

Basantatilak

Tarunananda Rasa

Maha-Swasari Lauha

Brihat Basabaleha

(b) Chronic stage—Vayu-Pitta deranged (over 1 year's duration):—

Give :—Maha-Swasari Lauha

Sringigur Ghrita

Chyabana Prasha

Dasamul Chatpalak Ghrita

If with constipation :—

Dasamul Kath with Castor oil

Kanchanabhra

Bhargi-gur

(c) If very chronic (over 3 or 4 years' duration), give :—
 Medicated foods
 Chhagladya Ghrita
 Chyabana Prasha
 Basantatilak.

4. In *Pratamak Swasa* (associated with fever) :

If acute fever, give :—
 Mrityunjoy Rasa
 Kapha-ketu

If chronic fever (*Vayu-Pittya*) give :—
 Jvarari Abhra
 Maharaj Bati
 Jvarasani Lauha

If with *Vayu-Kapha* deranged give :—
 Maha Lakshmibilas
 Basantatilak Rasa

If with high fever give :—
 Brihat Kaphaketu
 Swasa Kuthar
 Brihat Swasa-Chintamani
 Sringyadi Churna
 Panchakol Kath

5. If associated with *Pthysis* :

In *Secondary Swasa* :—

Swasa Kuthar Rasa	Kanchanabhra
Swasa Chintamani	Brihat Kanchanabhra
Swasa Kasa Chintamani	Basantatilak

If associated with *Sannipat* fever :—

Bhargyadi Kath
 Sringyadi Churna
 Swasa-Kuthar
 Swasa-Chintamani
 Brihat Swasa-Chintamani

If associated with Jaundice :—

Maha Lakshmibilas
 Sleshwa Sailendra Rasa

If associated with *Raktapitta* :—

Swasa Chintamani
 Maha-Swasari Lauha

If associated with Diarrhoea :—

Swasa-Chintamani
Brihat Swasa-Chintamoni

If associated with worms :—

Sringyadi Churna
Sleshwa Sailendra Rasa

If associated with vomiting :—

Kantakaryadi Abaleha
Swasa-Chintamoni
Maha Swasari Lauha

If associated with heart disease :—

Jwarari Abhra
Maharaj Bati
Brihat Chintamoni Rasa

If associated with Syphilis (Tertiary stage)

Panchatikta Ghrita
Panchatikta Ghrita guggulu.

If associated with Meha (urinary disease) :—

Brihat Kanchanabhra
Brihat Basantatilak

If associated with Sutika (Puerperal Diarrhoea) :—

Paste of Bahera (Chebulic myrobalan) with mother's milk.

Juice of Tulsi (holy basil) with mother's milk.
Burnt peacock's feather with honey.
Juice of Baamanhati with honey.

In children :—

Hiccough and Swasa :—

Astanga Abaleha
Sringyadi Churna

Cough and dyspnoea :—

Dhanyadi Panak
Sringyadi Churna

Cough and Asthma :—

Drakhyaadi Churna
Sringyadi Churna

Whooping cough :—

Astanga Abaleha
Sringyadi Churna

Analysis of Prescriptions

This is important, for according to Mahamahopadhyaya Ganapath Sen the importance of Ayurvedic prescriptions lie in their peculiar combinations. Incidentally the principles of treatment will be found out in such an analysis. It is usually said that Ayurvedic treatment of the present day consists in using some patent prescriptions. If these are critically studied, the students of Ayurveda will be able to write out their own prescription according to the needs of their individual patients.

(A) *Antispasmodic Smokes.*

1. Smoking the fumes of burnt dried Dhatura (fruit, leaf, and twig) popularly known as the "Kanak" (Black variety).

In the Bengal dispensatory it is stated that "we are indebted to native practitioners of India for a method of using strammonium in spasmodic asthma, which is certainly found of great benefit in numerous cases. We allude to the practice of smoking the dried leaves or stems".

2. Smoking the fumes of burnt paper dipped in solution of Nitre, dried and rolled in the form of a cigarette.
3. Smoking the fumes of the following, dried and pulverised into a paste with a little ghee (clarified butter) and rolling it in the form of a cigar :

R/.

Devadaru (*Pinus Deodara*)—aromatic pine, good for throat and chest, acting as antiseptic.

Jatamansi (*Valerian Jatamansi*)—an antispasmodic.

Bala (*Sida cordifolia*)—sedative.

4. *Hingvadi Dhum.*

R/.

Hing (*assafœtida*)—antispasmodic

Mash-kalai (*Phaseolus Roxburgi*)—sedative.

To be put on smokeless fire and inhaling the smoke of the burnt medicine by means of a pipe.

1. (B) *By various Linctus.*

R/. Ash of burnt peacock's feather—specific anti-spasmodic for throat.

Long pepper pulv.—carminative, good for throat.
Honey—demulcent,

The very combination indicates that this prescription is good for irritation of throat with hoarseness and dyspnoea.

2.

R/.
 Pulv ginger } ... good for throat.
 „ Long pepper }
 Haritaki (Embelic myrabolan)—laxative.
 Honey
 Sugar.

This is also good for throat and relieves constipation if taken a little at a time, several times during the day.

3.

R/. Indrajava (seed of Holarrhaena antidysenterica)
 —vermifuge.

Honey

This is indicated in Asthma due to worms.

(C) Other allied Preparations without Honey.

1. By pertaking of mustard oil which increases Pitta and diminishes Kapha (in those unaccustomed to take mustard oil with food) and old molasses (Gur) for a week relieves the Kapha variety of Asthma.

2. By pertaking of purified sulphur which stimulates the adrenals and checks Kapha with Ghee (clarified butter) which checks Vayu, the Vayu-Pittya variety is relieved.

This prescription with pulv. long pepper relieves Vayu-Kapha Asthma of throat.

3.

R/. Long pepper—carminative, good for throat
 Rock Salt—appetizing.
 with Ginger juice—carminative

This is good in gastric or dyspeptic Asthma.

(D) By certain Abalehas.

i. *Astanga Abaleha.*

It consists of 8 ingredients, hence the name.

Carminatives—*Trikatu*, a specific combination of three carminatives—Long and Black Pepper and dried Ginger and is good for throat.
 Black caraway (*Kalajira*)
 Ginger-juice.

Stimulants which check } Katphal (*Myrica Sapida*)
 Kapha } Kur (*Aplotaxis Auriculata*)

Expectorants—Kakrasringhi (*Rhus succedanea*)
 Duralava (*Alhagi maurarum*)
 It frees the secretions locked up in the body,
 acting as expectorant, diuretic and laxative.

2. *Kantakarjyadi Abaleha.*

It consists of—

Expectorants—Kantikari (*Solanum xanthocarpum*)

Kakra Sringi (*Rhus succedanea*)

Duralava (*Alpogi maurarum*)

Bamanhati (*Clerodendron Siphonanthus*)

Bansa-Lochan (Bamboo manna)

Diuretic—Mutha (*Cyprus rotundus*)

Gulancha (*Tinospora cordifolia*)

Carminative—Trikatu, Chai (*Piper chava*)

Antispasmodic—Rasna (*Vanda Roxburghii*)

Stimulant—Chitra (*Plumbago Zeylanica*)

Food—Sathi (*Curcuma Zeodoaria*)

Honey

Ghee (clarified butter)

Til oil (*oil Sesamum Indicum*)

3. *Brihat Basa-baleha.*

It consists of—

Expectorants—Vasak (*Adhatoda vasaca*)

Talipatra (*Pinus webenia*)

Carminative—Trikatu

Tejpatra (*cinnamomon Tamala*)

Guratwak (,, *Zeylenica*)

Cardamon, white and black

Carraway, (*Piper chava and Longum*)

Coriandar and Katki (*Picorrhiza*

Kurrooa)

Laxative—Kamalaguri (*malleatus philipensis*)

Teori (*Ipomoea Digitata*)

Haritaki (*chebulic myrobalan*)

Stimulant—Katphal (*myrica sapida*)

Kur (*aplotaxis auriculata*)

Diuretic—Mutha (*Cyprus Rotundus*)

Food—Sugar and Honey.

(To be concluded.)

THERAPEUTICS OF PALASHA
OR
BUTEA FRONDOZA

BY

VISHAGBHUSHAN KAVIRAJ A. C. BISHARAD,
M. R. A. S. (LONDON).

SYNONYMS :—

SANS :—Palasha, Kinshuka, Parna, Jājnika, Rakta pushpaka, Ksharashrestha, Batapotha, Brahma Briksha, Samidbara.

HINDI —Dhara, Kesu, Dhak.

MAHARATTI :—Palasa, Paththasa.

CANARESE :—Muttalu.

TELEGU :—Motuga, Matuka Che ttu.

ORIYA :—Parashu.

BOAAY :—Kharkarô.

GUJRATI :—Khakharo.

TAMIL :—Parasham.

CEYLONSE —Kela.

ASAMESE :—Palash.

ENGLISH :—Downy branch Butea.

LATIN —Butea Frondoza.

MEDICAL :—Butea Gum.

HABITAT : - The tree is found in all parts of India and Burma but mostly in Cooch Behar in Bengal. It is a middle-sized tree and looks very attractive when in flower. The flowers are of a beautiful bright colour and "capable of yielding a fine yellow dye which may be intensified by boiling with dilute acid".—K. L. DEY.

The leaves are long and triforked in one stem. The flowers are very large, papelonaceous and has a bright deep red colour. The appearance is bent like tiger-nail. According to Rajnighantu, the flowers are of four varieties viz., red, yellow, white and blue.

The fruits are thin and contain one seed in each.

PARTS USED :—Flowers, seeds, leaves, bark and gum.

CHEMICAL COMPOSITION :—The gum contains kino, tannic and gallic acids, 50% mucilage and ash 2%; on dry distillation it yields pyrocatechin.

The seeds contain a tasteless oil of a yellow colour; wax or fat 18%, albuminoid, gum, glucose, organic acids, metarabic acid and phlobaphane, cellulose, ash 5%—R. N. KHORY.

The oil is tasteless and has a specific gravity of 0.917.

1925.]

The bark yields a very important exudation called the *Palas-gond*, Chuniagond or Bengal Kino. It is rich in Tannic and gallic acids and is very similar both in chemical properties and medicinal virtues to the official *Kino*.—K. L. DEY.

USES IN AYURVEDA.

In *Bhavaprokasha* its therapeutics are described in the following words :—

पलाशोदोपनोवधः सरण्णो व्रणगुलमजित् ।
 कषायः कटुकस्तिक्तः स्निग्धो गुडजरोगजित् ॥
 भग्नसन्धानक्षाप ग्रहणर्थः कमिन् द्वरेत् ।
 तत्पुष्पं स्वादु पार्कं तु कटुतिक्तं कषायकं ॥
 वातलः कफपित्तास्त्रकच्छज्जद् ग्राहिशीतलम् ।
 टृड़्दाह-शमकं वातरक्तकुष्ठहरं परम् ॥
 फलं लघुष्मा भेहार्शः कमिवातकफापहम् ।
 विपाके कटुकं रक्तं कुष्ठगुलमोदरप्रणत् ॥

It is considered as an appetiser, aphrodisiac, laxative, curer of boils and cystic growths, cooling, useful in diseases of the anus, sprue, piles and worms.

The flowers are sweet in action, bitter, pungent and astringent in taste, increases *Vayu*, cooling and is effective in curing *Kapham*, haemoptysis, thirst, burning, eruptive skin diseases and leprosy. The fruits are light, heating, pungent, dry and are indicated in spermatorrhoea, piles, worms, leprosy, cystitis, abdominal diseases and in disintegration of *Vayu* and *Kapham*.

In *Shodala Nighantu* the juice of palasha-root is described as a curative agent in opacities of cornea, the seeds as an eliminator of intestinal worms and the bark of the trunk as an alterative :—

पलाशमूल स्वरसोनेतच्छायान्धा पुष्पजित् ।
 तद्वौजं कमिविधिंसि कागडो रसायने हितम् ॥

Shodala Nighantu.

In Haemoptysis.

CHARAKA recommends the following preparation of *Palasha* in Haemoptysis :—

पलाशबुन्न स्वरसेन सिङ्गं
 तस्यैव कलकेण * * *
 लिहाद् घृतं * * *

—CHARAKA, *Chikitsasthanam*, Chap 4, V. 48.

Take of the expressed juice of *Palasha*-leaves and *Kalka* or paste prepared of the leaves and clarified butter and treat in the usual process of preparing medicated ghrita. This is effectively used in haemoptysis.

Further in *Astangahridaya*. we find :—

पलाशबल्कलः काथः सुशोतगर्करान्वित ।

पिवेत् * * * * || V. 28.

पलाशबृन्तस्वरमे तदगर्भच्च घृतं पचेत् ।

मक्षौद्रं तत्र रक्तधूं * * * || V. 44.

Astangahridaya, Raktapitta Chikitshitam

Chap. 2. V. 28 and V. 44.

The decoction of the bark of *Palasha* when cool is efficacious in haemoptysis if administered with sugar.

Clarified butter prepared with the fresh expressed juice and a paste prepared of the leaves of *Palasha*, administered when cool, with honey relieves haemoptysis.

CHARAKA prescribes a decoction of the seeds of *Palasha* mixed with butter, milk and pulverised round pepper :—

शठी पलाश सिङ्गं वा पिण्यत्वा नागरिणवा ।

दयाद् यवागुं तकास्त्रां मरौचैरेब चूर्णिताम् ॥

CHARAKA, *Chikitsitasthanam*, Chap. XIV. V. 41.

And the leaves of *Palasha* soaked in curd and fried in यमकस्त्रे ह, i. e., clarified butter and sesamum oil, are advised to be given in Piles :—

तिवृद्धतौ पलाशनां चाङ्गेय्याश्वितकस्य च ।

यमके भर्जितं दयाच्छाकं दधि समनितम् ॥

CHARAKA, *Chikitsitasthanam*, Chap. XIV.

BAGBHAT in *Astangahridaya* recommends the administration of a ghrita (clarified butter) prepared with the kshar (alkaline) water of *Palasha* and samshed paste of *Batsaka* (*Kuduchi*—*wrightia antidysenterica*) :—

पलाशक्वारतोयेण लिङ्गेण पचेत् घृतम् ।

वत्सकादि प्रतिवापमर्गो न्नं दीपनं परम् ॥

Astangahridaya, Chikitsathanam, Chap. 8. V. 72.

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CHAKRADATTA also advises the following preparation as an effective treatment in piles:—

बोद्धगर्भं पलाशस्य त्रिगुणे भस्मवारिणि ।

साधितं पिवतः सप्तिः पतन्त्रगार्णी न संशयम् ॥

Haritsamhita, Arshachikitsha.

Clarified butter prepared with the alkaline water of *Palasha*, three parts and a paste made of *Trikatu* (dry ginger, long pepper and round pepper) is administered to the patient suffering from blind piles,

In *Bhavaprakasha*, *Palasha* is recommended in the treatment of following diseases :—

(1) *Raktagulma* (Abdominal tumour) :—A Ghrita prepared with *Palasha kshara* (Alkali dissolved in water) is efficacious in abdominal tumours in women.

(2) *Opacity of Cornea* (पुष्पाल्पनेत्ररोग) Pulverised seeds of डहरकरज soaked and dried seven times successively in the juice of the flowers of *Palasha* and a needle (बचौ) prepared of it and rubbed as an ointment with either honey, clarified butter or milk of goat, and then applied inside the eyes cures the affection called पुष्पनेत्र or corneal opacity.

(3) *To beget a strong and healthy male child* :—A leaf of *Palasha* taken smashed with milk during pregnancy helps to beget a healthy male child.

BANGASENA recommends the gum of *Palasha* as an (चञ्चन) application over the eyes in eye-diseases of pittaja type (ophthalmia). He further gives the following prescription for external application in slackness of the vaginal canal:

"Take *Palasha* seeds and wild figs, (उदुम्बर) in equal proportions, pulverise them and make into a paste with sesamum oil and apply inside the vaginal canal."

The same author found a paste made up of the seeds of *Palasha* and the milky juice of *Arka* (*Calotropis gigantia*) useful in allaying the pain caused by scorpion-bite.

As an external application in Leprosy *Charaka* eulogises पलाश निदाहरसः) prepared in following manner :—

मनःशिलालक् कुटजात् सकुष्ठः

सलोमग्नः सैढ़गजः करञ्जः ।

अन्तिष्ठ भौज्ञः करबोरमूलः

चूर्णानि सर्वानि तुषोदकेन ॥

पलाशनिर्दाह* रसेन चापि
 कर्षीद्रुतान्याढक संमितेन ।
 दक्षीप्रलेपं प्रवदन्तिलेप—
 मितत् परं कुष्ठनिसूदनाय ॥

CHARAKA, *Sutrasthanam*, Chap. 3. V. 8.

Manashila (realgar).

Kuta, (Wrightia antidyserterica.)

Kushta (Sanserea auriculata).

Hirakash (Ferri Sulph).

Chakundeh Beeja (Seeds of Cassiatosa).

Daharakaranja Beeja (Seeds of Karanji).

Vurjapatragranthi (the bark of the birch).

Karabir Mool (Oleander root).

a. a. 2 tolas (pulverised).

Fermented Barley gruel—16 seers.

Palasha Nirdaha Rasa—16 seers.

Boil to the consistency of an ointment and apply externally in leprosy eruptions.

In burning sensation in fevers the application of the leaves pounded with water is beneficial.

SUSHRUTA prescribes the seeds of Palasha, pulverised and administered pounded and mixed with rice-water as a very effective remedy in eliminating intestinal worms.

पलाशबाजस्त्ररसः

कल्कं वा तण्डुखाम्बुना ।

SUSHRUTA, *Uttaratanastra*, Chap. 54, V, 13.

Pulverised seeds are also used in *Chronic Diarrhoea*, e. g.—

पलाश फल नियुरहं पयसा पाययेत तम् ।

ततोऽनुपायबेत् कोण्णं क्षोरमेव यथावलम् ।

प्रवाहिते तेन मले प्रशास्यतुगदरामय ॥

CHARAKA, *Chikitsitasthanam*, Chap. XIX, V. 35.

A decoction of the seeds of Palasha is administered with milk followed by a drink of lukewarm milk according to the strength of the patient.

* To get *Palasha Nirdaha Rasa* cut the main root of a Palasha tree and place a vessel below the cut and burn the tree with fire till the vessel is filled with the juice emanating from the burning tree. This juice is called *Palasha Nirdaha Rasa*.

ACTION AND USES.

KHORY in his *Materia Medica of India* speaks of its action and uses as follows :—

Internal :

The leaves are astringent and alterative, used in diarrhoea, pyrosis, sweating of phthisis, diabetes, menorrhagia, worms and colic. A hot poultice of leaves is used to disperse boils and pimples. The decoction is used as an injection into the rectum in diarrhoea and dysentery and into the vagina in leucorrhoea; also used as a gargle in sore-throat and ulcers of the mouth. The seeds are aperient and anthelmintic used with success in tape worms. A decoction of the seeds and infusion of flowers is used with nitre as a diuretic in dysuria and in retention of urine.

External.

EXTERNALLY, the seeds are irritant and used with lime juice in dhobie's itch, ring-worm, indolent ulcers and fistula.

Gum—A powerful astringent and a good substitute for kino and may be used for all purposes for which kino is used. The natives use this gum, combined with rock salt and other astringents in pterygium and opacity of cornea.

Flowers—are astringent and dieuretic. Varalions of flowers are applied to the pubes in dysuria and retention of urine and to promote menses—R. N. KHORY, Part II., P. 195.

In the *Tantras* and *Puranas* also there are verses recommending the uses of *Palasha* in various diseases and we quote some of them here below for our readers :—

पलाशवौजस्त्ररसं पिवेद् वा चौद्रसंयुतम् ।
पिवेद् तद्वौजकल्कं वा तक्रेन क्षिमिनाशनः ॥

—*Agnipurāna.*

तक्रे दत्ता पलाशस्यवौजात्यकं समादिशेत् ।
कफजनां क्षिमीनां हि तत्पानं नाशनं भवेत् ।

—*Arkaprokasha.*

Palasha Patra Yoga.

पलमेकं पलाशस्य गर्भिनो पयसान्वितं ।
ऋत्वन्ते तानि पित्वा च बन्धा भवति पुत्रिनी ॥

Dattatreya Tantra.

The pregnant woman, if given a leaf of Palasha to be taken internally with milk, gives birth to a male child and the above, when administered to a sterile woman just after menstruation, helps to remove her sterility.

In Piles.

गव्याज्यं साधितं पौत्रं पलाशक्षारवारिणा ।
त्रिगुणेण त्रिकट्टकं अर्शासि क्षपयेच्छ्वः ॥

—*Garuda Purana.*

In Scorpion sting.

पलाशवौजमर्कस्य दुर्घे पिण्ठं हरेत् क्षणात् ।
विषं छुश्चिकसमूतं दग्धस्थाने बिलेपनात् ॥

—*Bridha Saranghadhar.*

In Senility.

पलाशबौजं समधु घृतेन सह पेषयेत् ।
तत्क्षणात् माषमादासु बलिपलितनाशनं ॥

—*Matsyapuránam.*

Pulverised seeds of Palasha taken with honey and clarified butter in doses of 6 grains remove senility and establishes age.

In another couplet in *Matsyapurána* the author sings the praise of the following preparation of Palasha-seeds as effective in curing senility :—

पलाशबौज सिङ्गार्थं मधुतैलसमन्वितं ।
भक्षयेत् समभागेन जरा हन्ति न संशयः ॥

—*Matsya Puránam.*

Palasha-seeds.

सिङ्गार्थं (leaves of *Cannabis indica*.)

a. a. to be pulverised and taken with honey and sesamum oil.

An oil prepared with leaves of *azadirachta Indica*, *Nirgundi* and *Palasha* flowers, fried in it, alternately 32 times each, is very efficacious in rheumatism and all sorts of obstinate skin diseases and is much used by *Sadhus* as a preventive of senility and old age.

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Reports of Societies, Etc.

ANDHRA AYURVEDIC CONFERENCE.

Opening of the Exhibition.

Sir P. T. Chetty's Welcome Address.

The Hon'ble Dewan Bahadur L. D. Swamikannu Pillai opened on Friday March 27th the Ayurvedic Exhibition organised in connection with the 7th Andhra Provincial Ayurvedic Conference in a Building adjacent to Soundarya Mahal. The function was largely attended by medical men and lovers of Ayurveda. Many delegates from the mofussil also attended. Sir P. Theagaroya Chetti, Chairman of the Reception Committee received the delegates.

The Secretary's Statement.

On behalf of the Exhibition Committee Dr. A. Lakshmi pati, the General Secretary, in requesting Mr. L. D. Swamikannu Pillay to open the Exhibition, said that numerous exhibits had been received in accordance with the invitations and mentioned that amongst the prominent exhibitors the Andhra Ayurvedic Pharmacy had taken great pains to bring to the Exhibition numerous valuable objects to cover all the classes. The other prominent exhibitors were Messrs. J. C. Singaram of Trichinopoly and Mr. D. Venkateswaralu of Alamur and Sri Raja Vasi Reddi Chandra Moleswara Prasad Bahadur Garu of Muktyala who had exhibited very costly and rare medicines prepared under his direct supervision. He then requested Mr. L. D. Swamikannu Pillai to open the Exhibition.

The Hon'ble Dewan Bahadur L. D. Swamikannu Pallai, in declaring the Exhibition open said:—

I have taken upon myself the opening of this Exhibition with gladness and I have had the fortune of opening a similar Exhibition two years ago. I have no doubt that this Exhibition will have the success that it deserves because of the great ardour and enthusiasm of the Andhra Ayurvedic Practitioners. It is only now that the study of drugs which has been carried on in this country for several hundreds of years had been taken on a large scale in Europe by Western practitioners, I have no doubt that the work that is being done by Indian practitioners will have a great influence and example on similar work of the West. The work in the plants and drugs has been similar to that carried on in this country. It reminds me of the comparision between the studies of science and astronomy. In the East the field of science of drugs has

been more ancient, more extensive ; and more intense work has been done. Therefore it is not merely in Southern India or the whole of India but throughout the whole world that the work of the Conference will be read with interest. At present you may not make a great deal of noise because the air is full of movements of all kinds of organisations like this, systematically carried on from year to year and extending their scope of usefulness and this will reflect on the scientific action of the West. I am thankful to you for having invited me to open this Exhibition. I wish this Conference a great success and may it carry on work which would be more and more illustrious for the name of Ayurveda.

Hakeem Mohamad Abdus Salam proposed a vote of thanks to the Hon'ble L. D. Swamikannu Pillai.

The party then adjourned to Saundarya Mahal.

Welcome Address.

Sir. P. Thegaroya Chetty, as Chairman of the Reception Committee, welcomed the delegates in a short speech in the course of which he dwelt on the superiority of the Ayurvedic system of medicine to the Western systems and urged that inasmuch as the Government themselves had come to encourage it, it was the duty of the practitioners of the Ayurvedic system to devote all their time and energy to improve the system and bring it to the level of the other systems. This system, he said, was one which was practised by the ancient Indians for several thousands of years. The culture in that was such that it was well-known all over the world. The Arabic system and the Western systems were merely copied from the Indian system. One would, therefore, expect that this system was practised all over the country, but unfortunately they found that it was gradually going down. It was declining in this country also because the Government was British and the British system was naturally encouraged. But being a country which was administered from its own finances they had a right to expect that the money collected as taxes from the people should be spent to their advantage. He did not think that more than a tenth of the population got relief from the Western system. 90 per cent. of the people got relief from the indigenous system. But unfortunately very large amounts were spent on the Western system and nothing on the indigenous system. It was the people's own fault that it was so. Somehow or other the indigenous system got a bad name and the practitioners of it were called quacks and never knew what the medicines they administered contained. On the other hand the native doctors made their own medicines and administered them.

THE GOVERNMENT'S CHANGED ATTITUDE.

The time had come when they should try to regain for the Ayurvedic system its old position. It had happened that the Government which would

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not permit local bodies some years ago to give any grants to indigenous dispensaries, had now come round and had themselves established an Ayurvedic College in Madras. Seeing how the times had changed was it not the duty of the Ayurvedic practitioners to take advantage of it? In Madras there were four or five Ayurvedic dispensaries from which not only Indians but Europeans and Eurasians got relief. They were telling that whereas their diseases were not at all cured by Western medicines they got immense relief from the Ayurvedic medicines. He wished to add that Chengalvaroya Ayurvedic Dispensary received about 450 new patients every day: while even the big General Hospital or the Royapettah Hospital did not get that number, although these cost several lakhs every year and the relief given by them was nothing in comparison. He, therefore, called on the Ayurvedic practitioners to do much research work and remove any cause for the charge that this system was not a scientific system. He also wished them to remember that there was a good deal in this system and also a good deal in the Western system, which they would do well to assimilate. He should also say that there was a good deal hidden in the Ayurvedic system which must be made available to anybody to learn. The Western Science of Surgery was so far advanced that for every small complaint they wanted to operate, but the native doctors cured them by medicines alone. In conclusion he hoped that the new Ayurvedic College where they were doing research work and were also grafting some of the good points of the Western system to the Indian system would receive ever-increasing encouragement.

On the motion of Dr. A. Lakshmi pathy which was seconded and supported by several delegates, Dr. Avadhani was voted to the chair. Dr. Avadhani then occupied the chair and after reciting several beautiful telugu songs composed by him in praise of the Ayurvedic system he delivered his presidential address from which the following are extracts:—

Presidential address

The original Ayurvedic Tantras are treatises on Alchemy, Physiology, Psychology, Pharmacology, Botany and Philosophy, all in one. They require a high degree of culture, of Sanskrit language and a complete knowledge of the various allied sciences, like Astrology, Astronomy, Tarkam, Grammar, Yogam, Sankhyam, etc. Besides study and laboratory work these Tantras insisted upon strict religious discipline and observance of rituals and meditation and the chanting of mantras for the success of the experiments. The principle of Rasa Vidya is to show as it were in an object lesson, the oneness of the whole universe as inculcated in the Advaita philosophy. Any metal can be converted into any other metal and all metals into gold and metals can be extracted from organic substances. This is the Chemis-

try portion of it. The Pharmaceutical preparations and the Physiological and Psychological properties attributed to them are beyond the comprehension of the materialistic world. The Rasayanams manufactured according to the treatises in Ayurveda prevent old age, prolong life, give eternal bliss and grant unto those that have the privilege of taking them a thorough knowledge of things.

The Qualifications Of a Master Of Ayurveda.

The Master or an Acharya of Ayurveda should be a wise and truth speaking man, possessed of the highest and noblest qualities that the human mind is capable of. He must have attained *siddhi* by chanting sacred *mantras*, he must have attained the power of *Khechari* and *Bhuchari Yoga*. The *Sadhakas* or students of *Rasa vidya* must be sincere believers in the truth of the science. They must be rigid followers of *Swadharma*, truthful and free from egoism, sloth, inquisitiveness, greed and deceit. They must look upon their master as the God himself, for it is said in all treatises of Ayurveda that the success of a student depends upon his capacity to please his master by his faithfulness and zeal (*Nishta*).

Astronomy becomes essential for a systematic study of Ayurvedam for the whole world and the drugs in particular are directly influenced by the sun, the moon and the planets. The potency of all drugs is either Agneyam (belonging to the sun) or Sumiyam (cool, belonging to the moon.) Certain drugs are said to possess their greatest potency under certain astral combinations and the Ayurvedic physician utilised his knowledge of astronomy for ascertaining the proper time of extracting his drugs. The influence which the planetary system exercises over the beings on this earth is an undeniable fact and it is a pity that the savants of the West have not only not realised this fact but have not given this topic their serious consideration as yet.

Astrology affords the Ayurvedic Physician glimpses into the future which he utilises for his prognosis. The Ayurveda Acharyas believe and realise that nothing in nature occurs by accidents. Every thing is pre-arranged and predestined. But the book of fate is sealed to ignorant eyes. The Yogis however always run in tune with the universal self, nullify time and space and thus their knowledge of things is ever clear and complete. But the average practitioner supplements his imperfect knowledge by the calculations of astrology and the indications afforded by omens, dreams and such other minor arts.

Treatment of Diseases.

Ayurvedic treatment falls under three broad categories—Prevention, Cure and Rasayanam. As regards cure, symptoms subjective and signs objective are described in detail and the three Doshas, viz., Vatam, Pitt-

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tam and Sleshmam, a disturbance of the equilibrium of which is proved in a masterly way to be the sole cause of all diseases, have been fully explained and the various methods of restoring this equilibrium by the administration of medicines composed of vegetable, mineral and animal products, which are prepared into administrable forms in the shape of Sindurams, Bhasmams, Pills, Powders, Asavas and Aristas have been elaborately taught. Theories like Tridosha Tattwa, a perfect exposition of which can only be attempted in special treatises and by direct teaching, have been purposely avoided.

The great masters of Ayurveda have wisely made provision for this materialistic age and have themselves compiled abridged editions containing only the secular portions of the science. The notable works of Vallabhacharya and Basava Raja of the Andhra country, Bhaba Misra of Upper India, and Bagbhata of universal fame are masterpieces in the field of secular medicine. The *Panchakarmas*, of Vagabhata, are elementary lessons of Yoga Sastra and the processes of *sudhi* adopted by the later writers like Vasava Raja and Bhava Misra are made easier of the most difficult Rasayanic processes of the older texts, which are evidently intended for purposes higher than that of the mere cure of bodily diseases. All the same these writers suggested in unambiguous terms the higher possibilities of Rasa Vidya even in their books. For it is said that while drug, purified according to Rasaynam process, could not only cure diseases but would even help man to achieve higher ends, the drugs prepared on purely secular lines are efficacious only in the cure of diseases. But even these made-easy processes are difficult enough to be practised by ordinary Physicians without patronage of wealthy persons. So long as our Rajahs and Zamindars were innocent of Newington culture they had high regard for indigenous medicine. Medicines like Makaradhwajam, Nava Ratna Chintamani, Nava Ratna Rajamrugamkam and Soochikabharanam obtainable in almost every Zamindary estate have maintained great reputation for their efficacy. Now-a-days there is more advertisement than reputation for these sovereign remedies owing to the advent of adventurous exploiters in the field of Ayurvedam, who study the Principles of Modern Advertisement with greater zeal than the principles of ancient Ayurvedam. To try to secure sympathy for the science on the ground that its remedies are cheap only shows a slavish mentality. Surely it is the efficacy, and propriety of Indian Medicine to Indians that must bring it recognition and reputation and not its cheapness. Some of the remedies of Ayurveda are no doubt cheaper than the cheapest, but there are some others which even kingdoms could not buy, for the Bhasmas of all the varieties of precious stones have been clinically used in the cure of human ailments.

In the matter of prevention, no other country in the world could contrive more effective methods of preventing disease than the land of India. The rules of conduct prescribed during the menstrual period of women are very rigid, the infringement of which brings on diseases peculiar unto their sex. It is interesting to note that for the infringement of the very same rules, the Dharma Sastra imposes the penalties of the direst sins. Viswadevam and other Vedic rituals which enjoin the offering of food to fire before every meal find their parallels in the chapters of Annarakshádhayám, which expounds the methods of testing food before every meal to satisfy oneself that it is not poisoned. Suspected food thrown into fire emits peculiar smell and fumes which can be easily discovered as poisonous. A little given to the crow, the omni-present, makes its voice hoarse immediately and a potent poison would take its life in just a few minutes. It really behoves the State to maintain a research institute where such things are verified and popularised.

Contact and Disease

We shall now deal with the principles underlying the prohibition of contact with undesirable surroundings and things. Innocent folks are told that the evil of contact and its resultant infection is discovered in the west and preached by western science alone. This theory is as old to us as the Vedas.

The greatest achievement of modern Medicine is claimed to be bacteriology and the microscope. Much is made of the invisible microbes and all the dirt and filth of the world is earnestly sought for and fixed on the glass plate and focussed under the microscope.

Western scientists boast that this is a new theory discovered by them. Is it a fact? The existence of these bacteria is recognised in all Ayurvedic texts, and curiously enough their forms are described with great minuteness. The masters of Ayurveda might have seen with their mind's eye or the Sukshma Darsanis (microscope) described in Sabháparvam of Mahábháratam, might have been in vogue to facilitate their observations.

While the western bacteriologist thinks that contact with infected areas and articles is the cause of certain kinds of ills, the masters of Ayurveda have gone a step further and said that contact of every kind leads to disease.

The President then dwelt at length on the lines of research in the East as distinguished from the West and of the great work done by the All-India Ayurveda Mahámandal and its provincial organisations in India for the cause of Ayurveda. In concluding his address, he said :—

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Whether the State renders any effective help or not, whether one denounces or another sympathises, it is our imperative duty to seek out the learned Acharyas of Ayurvedam, who are hiding themselves being sceptical of recognition at the hands of the present-day enlightened public. It is equally our duty to seek out and preserve the original works on Ayurveda. Then let us work together to bring about the well being of our countrymen by reviving for them the transcendent science of Ayurvedam in its pristine glory.

Resolutions.

The following are amongst the important resolutions that were passed.

Resolved that on and after July 25, the candidates who pass Vaidya Vidwan Examinations shall be required to undergo an apprenticeship course of at least six months in an institution or under a Guru recognised by the Andhra Ayurvedic Conference and shall be required to produce a certificate of having undergone such a course before the diploma is awarded to him. A list of recognised institutions shall be published at the beginning of each year.

The following shall be recognised institutions and persons for the ensuing year in accordance with this resolution.

1. The Madras Ayurvedic College ; 2. The Venkateswara Ayurvedic College, Bezwada ; 3. The Ram Mohun Ayurvedic College, Bezwada ; 4. The Gandhi Jateeya Vidyasala, Ellore ; 5. Sree Kanyaka Parameswari Ayurveda Dharma Vidyasala and Patasala, Tenali ; 6. The Presidents of the Andhra Ayurvedic Conference.

The Conference is of opinion that the Andhras consider it as an insult that the Andhra section of the Government School of Indian Medicine could not be taught by experts in Andhra Sampradaya as many such physicians both learned in art and language, are available in the Andhra country.

This Conference is of opinion that the undermentioned conduct on the part of the executive of the All-India Ayurvedic Conference is not conducive to the interest of Ayurveda and of mutual confidence and it is therefore resolved that the matter be referred to All-India Ayurvedic Conference to be held at Hardwar :

- (1) Neglect to include the Andhra Provincial Ayurvedic Conference as an affiliated institution ; (2) Though the Andhra Pranta has been conducting a Provincial Conference for the last 8 years, it is undesirable that they should be included in the Madras Presidency ; (3) Though the Andhra Pranta has been electing the Secretaries and Members as their representatives, the executive officers do not conduct the work in the Province through them but appoint their own Secretaries and others. Although a Sub-Committee has been elected in accordance with the resolution of the All-India Ayurvedic Conference held at Rajahmundry, the Bhishak examination is not conducted through them but through their agency.

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THE JOURNAL OF AYURVEDA

Vol. I,]

May, 1925.

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THE FUTURE OF AYURVEDA

Any one who has the interest of Ayurveda and for the matter of that the interest of his countrymen at heart can not but meditate ever and anon what the future Ayurveda would or should be like. If he is a sincere worker and a keen student with a wide outlook of the world he can not profess the unwise and unpractical cult of the 'no-changer' or the so-called "genuine Ayurvedist." For no critical and candid scholar can ever contend that what Ayurveda we now have is the same as the original Ayurveda of the sages. The vicissitudes of fortune that swept over India during the last two thousand years have deprived us of a good deal of our treasures and of a vast mass of our literature. Sciences could not have flourished during the past ages of rapine and incendiarism. Yet, the wonder is that so much has still survived. The theories and practices of the healing art which have been left to us by our ancestors stand us in good stead. Their survival means the survival of Ayurveda. They give immense benefits to the Indian people. Their merits are greater than their demerits. But to insist that extant Ayurveda is self-complete, that no reform or supplementation is necessary, that any addition or innovation whatever will destroy the integrity of Ayurveda is either self-deception through ignorance of the outer world or the display of clap-trap tactics which characterise the false patriot.

We want not to be misunderstood. We would fain honor the claims of orthodoxy if we find sincerity behind it. True orthodoxy may be mistaken, the blazing fire of patriotism may blind its vision but it is always sincere, devoted and well-meaning and seldom aggressive. In most cases, it is amenable to reason, open to conviction,

even liable to conversion. Despite their poor numerical strength, the honest orthodox are honoured for their conviction. As a check and safeguard against the over-enthusiastic racing of the hasty reformer, his conservatism may be valuable, even indispensable. To such orthodoxy we bow our head—we would fight them honorably but would not lose sight of the tempering effect of their views on our progress. To work in collaboration with them would be a pleasure—a sport—an education which no sane man would shun or shirk.

In Bengal, unfortunately, we have but very few specimens of such orthodoxy. Here those who clamour most for the pretended cult are not themselves misled but are out to mislead. To speak the truth, they put on the garb to further their own interest and to disarm their rivals by a show of patriotism rather than to advance the cause of Ayurveda. Covertly they use dozens of western drugs, overtly they preach staunch orthodoxy. They have no qualms of conscience when they manufacture shoals of quacks out of ill-trained compounders and half-trained idlers and label them with fancy titles. They employ doctors trained only in western medicine to teach western Anatomy, Surgery, etc. (without reference to the Ayurvedic works on these subjects) in their so called 'orthodox' Ayurvedic schools; outside they cry down those who learn or teach these very subjects on a comparative basis. We are grieved to find ourselves obliged to expose this hypocritical cult. But it was high time we did it in the interest of Ayurveda.

It has been said in some quarters that the modern school of Ayurvedists are keen to graft the western sciences on Ayurveda and to alter the face of Ayurveda altogether by dressing it in borrowed plumes. We assure our readers from direct knowledge that the charge is absolutely unfounded. First of all, it should be remembered that the principles of Ayurveda are not incompatible with the general principles of western medicine or what some people call Allopathy. Even the theory of Tridosha which is the mainstay of Ayurveda can be best understood in the light of modern physiology. The principles of Aetiology and Pathology are comprehensive enough in Ayurveda and once they are properly grasped there need be no quarrel with modern findings in these subjects. Bacteriology or, to be more explicit, the microbial etiology of the west no longer holds the same all-important position in the causation of disease that it held a few years

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ago. Endocrinology is fast revolutionising the creed of western medicine both in aetiology and in therapeutics. Who knows but western research is fast advancing towards the simple theory of Tridosha or something like it? In the field of medicine, the methods of the east properly employed proceed in clear-cut lines which are in most cases quite compatible with the methods of the west. A comparative study therefore can only widen our ideas, so far at least as the studies are concerned.

Secondly, confining ourselves to the preliminary studies there should be no two opinions as to the necessity of grounding the student early and properly in such basic subjects as Anatomy, Physiology and the physical sciences. If Anatomy was to a large extent lost and the majority of the generation of Ayurvedists had not the opportunity and advantage of dissecting the human body, not even a staunch orthodox should contend that Anatomy can be omitted. Without a preliminary knowledge of elementary Anatomy, Physiology—Ayurvedic or Western—would be unintelligible. From a comparative study, we find the principles of Physiology as explained in Ayurveda to be not only compatible with but even based on the present-day findings of western Physiology. The necessity of the student learning the elements of Physics, Chemistry and Botany as basic subjects is also much under-rated if not ignored altogether by the orthodox school. That they would help the understanding greatly, that they would simplify and explain many pharmaceutical processes (e.g., the reduction of metals, etc.) and the identification of drugs, can hardly be realized by those who have never passed the threshold of a laboratory. They consider the acquisition of these subjects an unnecessary burden on the students' mind and it is idle to reason with those whose reason is confined to sophistry. Even the Anatomical texts of Ayurveda which have become mutilated and disfigured through the lapses of recent editors and publishers are held sacred and inviolable by them. Not that they would write and defend such texts with reasons : much rather they would vilify those who are shedding their life-blood to revise the texts and expunge Ayurveda of effete material. No sane man can follow the path of such inertia and obstructiveness and yet expect a rejuvenation of Ayurveda.

Thirdly, despite the unsparing injunctions of Ayurvedic texts for sound and painstaking practical work in

every field of medical study, it is well-known that what with the lack of state-aid and what with the inevitable lethargy of a sinking nation, the practical side of medicine and surgery has been much neglected in the East. The limited success of those who had but poor practical training in all but the clinical and pharmaceutical fields has been often made the plea for the continuance of the present methods of study. We have sometimes heard our national leaders arguing in this vein, when it became necessary for us to point out to them that in the fields of Surgery and Midwifery the Kaviraj was generally out of court inspite of the elaborate discourses on these subjects found in his standard works. Because some immediate surgical interference had been averted by external applications and internal medicines administered by the Kaviraj, some of them would even go the length of insisting on the efficiency and sufficiency of those methods—as if Sushruta and his school who advised and performed various surgical operations in the palmy days of Ayurveda have been now superseded by the sapient Ayurvedic surgeons of to-day who dread the knife as much as their gullible patients.

So, if Ayurveda is to live and move and have its being side by side with its fast-advancing rivals, it can not be allowed to stagnate. Keen study, introspection and progress—that should be the motto of the future. Western medicine has one great merit—it knows its imperfections and is constantly striving to remove them. It knows its weakness and its empiricisms and are constantly making for progress and rationale. The Ayurvedist Rip Van Winkles should wake and see and move before it is too late in the day. Human knowledge is limited and it is an insult to human intelligence to assert that it had its perfection and even the relics of to-day are as good as the great edifices of yore.

NOTICE.

We are in a position to state that from our next issue a series of valuable articles on (1) the Study of Pulse, by Dr. Ekendra Nath Ghose, M.D. (2) History of Ayurveda and (3) the Study of the Tridosha theory of Ayurveda in the light of modern knowledge will be published regularly.

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"Ayurveda having been defined as the Science which gives us the knowledge of life by explaining the meaning and the different aspects of life, namely, the Healthy happy life or its opposite—physically and mentally—it comprehends an insight into the phenomena of the world at large, things and their properties and uses which are conducive or otherwise to life. As such it covers not only the Medical Science in its widest aspect with Veterinary Science as a part thereof, but also Psychology and Ethics, because the physician has been repeatedly enjoined to look to the health of the body as well as of the mind of his patient. 'Mens Sana in corpore Sano' is a Greek maxim based on this principle and everybody knows it as a matter of fact that a healthy mind is possible only in a healthy body or *vice-versa*.

It follows then that Ayurveda is not only the Science of healing the sick but also keeping the healthy healthful which is a paramount duty very graphically enforced by the Chinese Emperors who pay their physicians as long as he keeps his clients in a state of health and stop his salary the moment there is ill-health in his patron.

It is with such a comprehensive view that Ayurveda has been conceived and not with any sickening system of water-tight compartments that it has come to be viewed at the present day.

Ayurveda does not end with some curios of *Materia Medica* as Makaradwaja and Chyavanprash but connotes and denotes all positive sciences that go to enhance comfort and serve our mundane

existence to attain happiness - the goal of the world. We are all familiar with the air of indifference that is meted to Ayurveda and its votaries by the all-wise moderners and that is due to their estimation of Vaidyas as know nothing charlatans.

Far from such a view, since Ayurveda is 'Scientia Scientiarum'—Science of Sciences, an Ayurvedist should be a Savant of Science or at any rate a versatile scholar 'knowing something of everything and everything of something' and so fulfilling the caption of an educated man. Eschewing the pygmies and harpies that defile the ranks of Ayurveda, an Ayurvedist is a cultured man, worthy of the highest regard of his community, well versed in his calling and abreast of collateral sciences.

Really he enjoyed that position formerly and is enjoying to-day in a limited way being bounded by the limitations set upon him by the official system. His prestige has been shattered to shreds by the entrenched official school which has hoisted itself on the ruins of the ancient system of the land.

While this is partly answerable to the fall of the Ayurvedist from his pedestal, much decadance is the outcome of his own cavalier indifference to modern advances around him and his habit of silurian rock-stasis which brushes him aside the onward march. *Qui non-profit deficit.*—He who does not advance recedes and there is no half-way-house in modern progress; either you must go back or push ahead, but you shall not be allowed to stand where you are in the rush of events.

The lamentable lack of perspective, the deplorable dearth of initiative, the detestable apathy to grapple with the ever-renewing situations are some of the causes of the degeneracy in Ayurveda brought on by its votaries.

What to do to remedy these defects and revive Ayurveda and once again instal it in its pristine glory? A system of which doctor Geo. E. Clarke, M.A., M.D., Philadelphia, writes :—

"I would rather trust ancient Hindu practice than the allopathic practice of what we are wont to learn in this enlightened age. If the physicians of the present day would drop from the Pharmacopœia all the modern drugs and chemicals, and treat their patients according to the method of Charaka, there would be less work for the undertakers and few chronic invalids in the world."

Such a system has been found all but adequate for our needs—who is to blame for this pass in our affairs? Why? The Ayurvedists

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themselves. Quite oblivious of their environments and happy-go-lucky people! they gonged their own gait and they rosé to see their occupation gone.

The strides of progress made by western medicine are very varied and now we are yet there slumbering at the same mile-stone. It is no doubt a glory for Ayurveda that it can vie successfully with the advanced western systems in spite of its hoariness and back numbered nature. But imagine, gentlemen, how it would have developed by leaps and bounds if it was unhampered by state medicine and progressed by its votaries. At least for the sake of its tonic effect on our all-gone feeling, picture to yourself a state of affairs when Ayurveda was the State Medicine and petted and pampered by public exchequer and its votaries entrusted with Sanitation and Medical Relief. Funds being munificently donated for carrying on researches and developing its teachings and the genius honored according to his deserts in the field. Then it would attract talent and having obtained it would retain it. But this is only a phantasmagoria. There are flesh pots in it. We cannot obtain talent for work in Ayurvedic field and much less retain it. And it is not the task of a man of mediocrity to rescue the system from decay.

Men of strong character, sound erudition and wide scholarship must work like Pilgrim Fathers to found anew the ancient school. True interpretation of the scope of Ayurveda as denoting all sciences and Arts that go to make life happy here below must be made to pierce through the adamantine walls of ignorance and prejudice.

The idea that Ayurveda can be plied by any harpy who chooses to dabble in it must be spurned. If an ordinary Hospital Assistant who in the words of late Dr. T. M. Nair constitutes the rank and file of medical profession, requires to be drilled for four years or even five in a well-equipped Institution to practise allopathy how much more is it essential that an Ayurvedist should be trained to practise his colossal profession of Ayurveda? A knowledge of Sanskrit is a sine-qua-non for a competent appreciation of the noble Science. For exigencies of medical aid, no doubt, we can train a band of people through the medium of vernaculars, but since it is essential that we should hold our own against a strongly entrenched system it is necessary that our votaries must be well versed in their Shastras and be able to make comparative studies of the other systems. Hence it is advisable that they must have a knowledge of English too. A knowledge of the vernacular of the Province is also essential. The ground work of science must be studied before master-

ing the details of Medical Science. With such a start a conscientious and diligent student under the guidance of able Professors can hope to progress and he can be amply recompensed for his labours in the field.

Difficulties are the messengers of God to overcome them and thereby become stronger and yet stronger. The Kudos of restoring Ayurveda to its pristine glory is very great indeed. But a haphazard mode of work won't do. One must bury himself behind his test tube before he can deluge the world with the flush of his find. Patience and diligence are sorely needed in pioneers. The step-motherly treatment of the Government does not foster Ayurveda. Salvation must come through ourselves alone, its votaries and the great public will be always behind us. The banner of Ayurveda must be held high aloft and we must march with the rythm of harmony in a forward processior. We must invite friend and foe alike to participate in our Jatra and call back our apostate brethren who, like the great Karna of Mahabharat, have been oblivious to their kinship with Yudhisthira or Dharma and pitched in battle against their own flesh. The glory of falling in line with Dharma is not that of Karna and all his prowess is sold for a mess of pottage and he falls a Hero, no doubt, but not for Dharma. What is our Dharma? Our Dhama is to uphold our tradition and our practices and where they are found wanting to freely acknowledge and enrich our treasures. And there is a higher duty too and that is to give to the world freely as we receive freely unlike some parasites who feed at our expense and never give anything back. No. No the land of the Immortal Bharata knows how to be grateful. In the words of H. H. Sir Bhagavat Singhji, K.C.I.E., M.D., D.C.L., LL.D., Thakore Saheb of Gondal.—“Europe is simply paying back the debt it owed to India because its *materia medica* includes many curative agents of Indian products”—yet we know how to be grateful and like the cocoanut palm shall pay off our debts ample by manifold returns. Hence it is the solemn duty of all Ayurvèdists not only to take but give also. Our forefathers have given enough in the past and even computing at simple interest—the returns of Europe are not adequate to make us liable to pay. But yet we have not paid anything. We are resting on past glories. It is not “*Swoparjita*”—self-acquired. Hence let us assimilate our Science and the progressed sciences of the West and by judicious assimilation let us store up and conserve surplus energy to spare for the uplift of the down-trodden and oppressed elsewhere. Western Medicine is in

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sore straits to-day in Therapeutics and Medical Treatment and let us freely fly to their rescue Dr. Clifford Albütt, a well-known English authority on Medicine blandly says :—“The merely scientific physician is apt to be blind to useful maneuvres which rest rather upon the accidental than the more permanent quality of things. Prevalent opinions, though not formal truths, contain truths, and this the practical physician does not fail to perceive; nor does he forget that the observation of any person, however profound, being the observations of an individual of brief life and limited faculties, need some tampering by traditional lore—by the embodied opinions of a vast number of observers over a long period of time.

Well, our traditional lore is ample to open up all cul-de-sacs in modern medical practice and no body can brush it aside with impunity. Dr. Mohendra Lal Sircar of Calcutta used to tell us that there are many things in Charaka which even our accomplished physician of the present day has to learn. So no body need feel coy or shy to embrace Ayurveda which is the mother of all other systems of medicine in the world, being the easiest simplest, safest, cheapest and most reliable.

Dr. Hirschberg of Berlin, writes :—“The Indians knew and practised ingenious operations, which always remained unknown to the Greeks and which even we Europeans only learnt from them with surprise in the beginning of the last century. The whole plastic surgery in Europe had taken its new flight when these cunning devises of Indian workmen became known to us. The transplanting of sensible skin and laps also is an entirely Indian method.” This is the tribute of western savants and we, sons of the soil, having picked up some crumbs of bread made out of our Ayurvedic wheat flour only falling from the tables of western savants pompously rear our head in the skies and some of our allopathically trained brethren dismiss the system as unmitigated quackery. Is it not a case of the sands being hotter than sun rays from which it derives heat?

No deliberate thinker shall pass such sweeping remark except novices whose knowledge of western medicine is not so complete as to make him liberal and whose apostacy from his traditional lore is complete to land him on quicksands.

Well, the cause has its friends and foes and it is essential to take a survey of these. Solace can be derived from the fact that all opposition comes from the ignorant ranks of half-baked products and our friends are all finished products. Then, there is a large army of neutrals who are sitting on the hedge. Then there are others who

are reluctant to shake hands with spurious imitations of Ayurvedists who defile our ranks. It is our bounden duty to purify our inner life and expunge all rubbish and debris that has accumulated and make the garden walks of Ayurveda quite pleasant and congenial for the most scientific to take a pleasant walk. How to do this? First of all, we must impose on ourselves voluntary discipline and purify our ranks. Then we must be organised. We must have a constitution. There must be a network of organizations all over the country to foster the interests of Ayurveda. The Ayurvedic education must be in the hands of scientific Physicians collaborated by eminent men in Society. The standard of instructions must be raised to University Grade. There must be three grades of Instruction in Ayurveda : Primary, Secondary and University. Primary education in Ayurveda shall consist of a two years' course of instruction in the vernaculars of the province training the students to succour the people in the rural areas and making them competent to deal with all emergencies as they arise. They must be so trained as to fit themselves into rural economy as of old and be given a training in a subsidiary calling to supplement their sparse incomes in medical practice and make them altruistic practitioners of Medicine. Study of botany must be emphasized and those with aptitude for agricultural pursuits must be made to pick up scientific agriculture to be complemented by their practical agricultural life after their studies. This will solve the knotty problem of rural medical relief in a poor country like India. Secondary Education in Ayurveda must be of the standard of our Sub-Assistant Surgeons and Medical Schools to teach Ayurveda should be established galore in all cultural centres and students with Anglo-vernacular education of Secondary Grade should be taken into these schools and be taught Ayurveda scientifically. They can have very good careers in Taluk places and be the friends, philosophers and guides of the community, if properly trained under competent Instructors. In this instance I quote the very significant words of Dr. Cornelius Comegys, M.D., of Cincinnati : "Who knows half so much the wants and wishes, the joys and sorrows of the family circle watching by the bedside of an ailing or a dying man? Who are the friends and comforters in adversity especially of persons in every grade of life from the sovereign to the wretched outcastes of the streets, houseless, homeless, friendless, alone? Who disarm pestilence and give Jenners of Dhanwantaries to the world? Who follow in the battle-field through the thickest of fire, not that they may aid destruction in her work, but that they may snatch the wounds

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she makes? The servant of religion hath not more sanctity about him than good physician. The Divines and Pastors promise to save the Soul. The Physician tries to give relief from pain to the human body. Let the physicians but know, remember and realize that he can only do so, through, and not without an intimate knowledge of the laws of life—"The Laws by which we live and move and have our being." To our subject:—The third grade must be of the University standard. Here should be insisted the University Entrance as the admission qualification and English, Sanscrit and vernacular of the province must be mastered before entering upon this standard of Ayurvedic study. The course must be of five years duration to make real physicians of students turned out by the University. They must be thoroughly drilled in all modern methods of Medical Research and must be well equipped with knowledge to boldly measure their strength with Western Varsity products. Through such effort alone can Ayurveda command universal respect. Five years in a University is the sine qua non. And we must before anything else standardize University Education in Ayurveda. Ayurveda is exalted. Its very exaltation pigmies its modern votaries side by side!

If we should command recognition and respect like western trained Doctors we must raise Ayurveda to University Standard; this way lies salvation. No panegeries about the system can bring it out of the quagmire that it has stuck in, owing to the stasis of its representatives. Can there be a worse plight for us than that we should look up to western trained medical men to give us a lead in the matter? Have you ever seen a Catholic clergy clinging at the feet of a Protestant Divine or a Seventh-day Adventist Reformer for elevation of his denomination? This dearth of stalwarts and reformers from within our own fold is an eloquent testimony to our fallen condition and it is the barometer of our degeneracy. Shall we waste another day in internacine quarrels and deal a death-blow to an already decaying class or shall we give timely restoratives and save the sinking subject? It is a burning question. It is a question of life and death. Our alert brethren of the Western School have already run the gamut of their science and are ever eager to stamp their leadership and superiority on us. They have usurped leadership in Bengal and in Madras and are slowly coming to our precincts to bombard our strongholds. There is no sentinel to guard our preserves and we are used to lick the boot that kicks us. Arise awake, or be for ever fallen. If you snore at this juncture the death decree is already being signed and sealed by our friends of the alert

school ! I am not telling this with any carping spirit or envy. I have no quarrel with the Western trained countrymen of mine. In fact my best friends are amongst them.

They are justified in coming to save us from premature death. But we have to blame ourselves for thus hastening the day of death a day too early. There must be a genuine search of heart among our Ayurvedic votaries and every one must confess that he began to look with confidence on his system when it came to be applauded by the foreign savants and Indian Doctors trained in western medicine. Is it not an index to our lack of self-confidence born of indifferent training and study ? Then should we not remedy this grievous condition ? The great Bhagavan Sri Krishna said for us long ago—

अज्ञास्त्रश्वद्धानश्च मंगयात्मा विनश्यति ।

नायं लोकोऽस्ति न परो न सुखं मंगयात्मानः ॥

Self-confidence, self-respect and self-initiative are begotten of thorough mastery of Science. Then gird up your loins, my brother Ayurvedists, and be up and doing. No body can do for us. We should be made by ourselves. "Self made, or never made" is an age-old slogan. Do not fritter away your energies in schisms and quarrels. Elevate our ranks to the Varsity standard.

Pandit Madan Mohan Malaviya, Mahamahopadhyaya Gananath Sen, and a munificent Rajput Prince helped with men and money to open an Ayurvedic Faculty at the Benares Hindu University and it is a pious wish even unto this day. Why, simply because there are wheels within wheels in the bureaucratic machinery and the particular medical wheel is the Penelope's Web or Pandora's Box. It shall smash the best structure. They know, for once the Ayurveda is raised to University standard it shall rear its head and vie with their State protected system and they shall never make an Ayurvedic Faculty in official Universities and all Universities are official in India as you know.

There is one honorable exception and that is the Andhra Research University of Vizianargaram incorporated legally under the Government of India Acts. The Karnataka Ayurvedic College is started in connection with that University and justification for this Karnataka College to be inaugurated in connection with that University is that we can get no quarter in any University clique in India.

ASTHMA IN AYURVEDA

BY

ASHUTOSH ROY L. M. S., HAZARIBAGH,

(Continued from our last issue).

E.—As drink.

1. R/

Haritaki (Chebulic myrabolan)—laxative,

Pulv Sugar—carminative.

Hot water

It relieves Constipation.

2. R/

Black pepper—carminative

Ash of burnt green barley spike (impure Carbonate of Potash)—diuretic and laxative.

Old molasses

Hot water

It relieves Pitta.

3. R/

Pulv. dried kernel of Kushmánda (Squash)—soothing, diuretic, checks haemorrhage.

Hot water.

It relieves Vayu-Pitta.

4. R/

Kur (aplotaxis auriculata)—stimulant

Javakshar (prepared from burnt green barley spike)—diuretic and laxative

Black pepper—carminative

Hot water

It relieves Pitta.

5. R/

Kulthi Kalai (Dolichos unifloris)—diuretic.

Kantikari (S. xanthocarpum)

Vasak (A. Vesica)

Ginger—Carminative.

Pushkar (a variety of Kur)—stimulant.

It relieves Kapha.

{—expectorant.

BHARGYADI JOGA.

6.

R/

Bamanhati (*C. siphonanthus*)—expectorant.

Dried Ginger—carminative.

Hot water.

It relieves Kapha.

BILYAYDI JOGA.

R/

Juice of white Dankuni (*Pladera deccussata*)—laxativeJuice of Bael leaf (*œgle marmelos*)—LaxativeJuice of Vasak (*A. Vesica*)—expectorant

Mustard oil (food—relieves Kapha)

It relieves Kapha.

TUTTHAK JOGA.

Copper Sulphate (emetic and laxative) with Iron or Borax.

It is emetic, relieving phlegm in the chest.

BY CHURNA OR POWDERS.

1. *Sunthyadi Churna*.

R/

Bamanhati (*C. siphonanthus*)—expectorant.

Dried ginger—carminative.

Sonchal Salt (*Kala Nimak*)—diuretic and laxative

Sugar.

To take with hot water.

2. *Haridradi Churna*.

R/

Turmeric—Black and Long pepper—carminative.

Rasna (*V. Roxburghii*)—antispasmodic.Laxative food—dried grapes and sathi (*C. Zeodoaria*).

Other food—Old molasses, oil mustard.

It relieves Vayu-Kapha.

3. *Sringyadi Churna*.

It consists of—

Expectorants—Kakrasringi (*R. succedanea*)Kantikari (*S. xanthocarpum*).Bamanhati (*C. siphonanthus*).Antispasmodic—Jatamansi (*Valerian Jatamansi*)

Carminative—Trikatu.

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Stimulant—Kur (A. auriculata.)

Pancha Laban (a combination of 5 Salts) :—

Bit Laban (Carbonate of Soda)

Sambhar (prepared from Sambhar Lake water)—
diuretic and laxative.

Saindhab (Rock Salt)—appetizing.

Karkach (Sea salt)—bitter laxative.

Sonchal or Kala Nimak (a mixture of chloride and
sulphate of soda and caustic soda, but no carbonate)
—digestive and laxative.

BY KVATH—VEGETABLE DECOCTIONS.

1. *Dasamul Kvath.*

R/

Dasamul (Specific combination of 10 vegetables to check
Vayu-Kapha)

with a stimulant—Kur (A. auriculata)

or a laxative—Castor oil according to indications.

2. *Bhargyadi Kvath.*

R/

Bamanhati or Bhargi (C. siphonanthus)—expectorant.

Kantikari (S. xanthocarpum)—expectorant.

Rock salt—Appetizing digestive.

It relieves Kapha.

3. *Guduchyadi Kvath.*

It consists of—

Expectorant ... { Tulsi (holy basil).
Bamanhati and Kantikari.

Carminative—Ginger and Long Pepper.

Diuretic—Gulancha (T. Cordifolia).

It relieves Kapha.

4. *Another variety of Guduchyadi Kvath :*

R/

Gulancha (*Tinospora cordifolia*)—diuretic; Vasak (a. vesica)
—expectorant; Brihat Panchamul (specific combination of 5 vege-
tables to check Vayu).

It relieves Vayu.

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Camphor—cardiac stimulant.
 Talispatra (*Pinus. W*)—expectorant.
 Cinnamon and cloves—carminative,
 with decoction of Kantikari (expectorant, diuretic).

5. *Swasa Kas Chudamani.*

R/

Mercury and Sulphur—alterative

Gold—nevine tonic

Burnt Pearl—stimulating antacid

Iron and Mica—haematinic

with decoction of

Kantikari—expectorant

Liquorice—laxative

Betle-leaf juice—relieves Vayu-Kapha

Goat's milk—food in Kapha disease.

6. *Swasa Gajankus.*

R/.

Gold and Silver—nervine

Mica—haematinic

Tin—diuretic food in "Meha" (abnormality in Urine)

Camphor—cardiac stimulant

with juice of Vasak—expectorant

Red Sandal wood—expectorant and diuretic

Clove—carminatives

Malati flower (*Echitis caryophyllata*)—fragrant.

It may be noted that the following are often used combined
in Ayurveda having similar properties :

Mercury and Sulphur

Gold and Silver

Iron and Mica

Pearl and Coral

Musk and Camphor

Nutmeg and Mace and so on.

(To be continued).

PURGATIVES IN AYURVEDA

BY

KAMALA KANTA SHARMA.

(Continued from March 1925 issue.)

A PURGATIVE FOR DELICATE PERSONS OF A KAPHAJA TYPE.

हरीतकी (Chebulic Myrobalan)

गाम्भीरीफल (Gmelina arborea)

आमलकी (Embelic myrobalan)

दाढ़िम (Pomegranate seeds)

कुल (Plums)

Take the required quantity of the whole of the above fruits including stones, in equal proportions, smash and boil in water sixteen times their combined weight, till reduced to a quarter. Then place a quantity of castor oil on fire and when ready (*i.e.*, the froth passes off) add to it the above decoction and a quarter part of the weight thereof of the juice of any of the acidulous fruits (lemon, etc.) and boil again till reduced to the consistency of a thick gruel. Then mix with it the following :—

Pulv. Trivrit.

,, cardamom

,, leaf of lorous cassia

,, Cinnamon

} the three aromatic drugs.

Honey

Add the three aromatic drugs powder necessary to impart sweet aroma to the confection and that of Trivrit powder and honey —quarter of the whole substance. This is to be administered in the form of a linctus in required doses and is specially recommended in persons of a delicate constitution suffering from constipation of a *Kaphaja type*.

IN CONSTIPATION OF SANNIPATA TYPE ATTENDED WITH FEVER AND HÆMOPTYSIS.

R/	Trivit powder		
	Shyama	}	aa
	The three Myrobalans Powder.		

Mix and prepare confection in the usual way with sugar and honey. To be administered in doses to be determined by the strength and bearing capacity of the patient.

In chronic cases of Vayu-Kapha type.

In chronic cases with enlarged spleen, in cystic growths, in subjects having the predominance of *Vayu* and *Kapha* in the system, in chlorosis and abdominal dropsy, etc., the following preparation of *Trivrit* may be used with much benefit :—

R/ Trivrit Powder.....3 parts.

The three myrobalans together.

Carbonate of potash (यवचार) ... 1 part.

Powder of Pippali (long pepper) ... 1 part.

Powder of Baberang seeds (बिड़ड़) ... 1 part.

Mix together with the required quantity of honey and clarified butter and administer as an electuary. In cases where there is indication of the intestinal worms, this preparation will prove very effective.

In people having DRY TEMPERAMENT the following compound is recommended to be used as a purgative :—

Pulv. Shyama root.

,, Trivrit root

,, Nili fruits (Indigo plant seeds).

,, Katki fruits (Black Hellebore).

,, Mustaka (Cyprus rotundus).

,, Duralava (Fogonia arabica).

,, Chavy (Piper Chava)

,, Indrabeejam (seeds of Holarrhena antidysentrica).

,, The three Myrobalans.

aa. Mix well and administer with either clarified butter or meat-juice or simply water.

ASAVAS AS PURGATIVES.

All of the purgative drugs already detailed, excluding Sudha (Manasa—Uphorbia Nerifolia) should be taken in equal proportions and boiled in water.* Take three parts of this decoction and mix with two parts of यवासकम् (powdered barley) and boil again over fire, taking out when reduced to half. Then when cool, pour the whole into an earthen pitcher whose inside is besmeared with a special plaster and dried beforehand.'

* According to many authorities *Trivrit* is only to be used in the preparation of this Asava to the exclusion of all others.

Take a new earthen pitcher, wash well and dry; then coat its inside with a plaster prepared of honey and peepul (long pepper) powder and fumigate with the fumes of Aguru (Eagle wood).

Keep the pitcher buried in a heap of paddy for a month or a fortnight according to the season (winter or summer). It is ready for use when the content emits a winy or fermented odour. Fermented liquors from animal urines are prepared in like manner

Preparation of Purgative Wine.

Prepare a decoction of the purgative drugs. Then soak respectively the required quantity of *Masha* pulse (kidney beans) and *Shali* rice in it. When the watery portion is evaporated and the pulse and rice are well dried, powder them well together and roll them into balls, dry again in the sun and pulverize again. This is called *Surabeeja* (that which imparts to it the enzyme). Then take another quantity of *Shali* rice previously steamed in the vapours of the aforesaid decoction and prepare cakes of them. Three parts of these cakes should now be mixed with one part of the *Surabeeja* described above. Mix this with the required quantity of the decoction of the purgative drugs and place inside a plastered earthen pitcher prepared as described above and lay it by. When the content emits the peculiar wine-like smell then it is ready for use *

Purgative Saubira or Barley Wines.

Take of Trivrit roots and drugs of the group known as *Vidarighandha**, *Mahat Panchamulam*, and roots of *Murva*, *Mahakaranja Sudha*, *White Bacha*, the three myrobalans, *Ativisha* and *Vacha** Mix well and divide into equal parts. Prepare a decoction from one part and powder the other part well. Thereafter a quantity of well husked and smashed barely should be placed for seven days in this decoction. When dried it should be partially fried. Three parts of this powder and the previously prepared half portion of the powder of the purgative drugs should be mixed together and soaked in the cold decoction of these drugs. Place the whole inside an earthen pitcher prepared as described above and lay it by till well-fermented and emits the characteristic smell. This is called purgative *Sauviram* and should be administered in suitable doses

*Wines from emetic drugs may also be prepared in this way.

चिदारौग्नसा (*Shalpani*) :—Desmodium gangeticum). मूर्च्छा—(*Sansevieria Zeylanica*), श्वेतवच (achorus calamus). अतिविषा—(*aconitum heterophyllum*). वच (white flag). महत पञ्चमूलम (The five principal roots-bark of the Drugs known as the *Dashamula* group) :—(1) विल्व or aragle marmelos, (2) गणिकारिका or prunna seratifolia, (3) शोणा or *Bignonia Indica*, (4) पाहुल or *streopernum suaveslens* and (5) गाम्भारी or *Gmelina arborea*.

TUSHODAKA KALPA.

Fermented Liquors of Barley with Husks.

Take all the drugs enumerated above (in the preparation of *Saubira*), mix them together, divide in two equal parts and place them in two separate earthen vessels. Take out one of them, thrash well and tie up in a piece of clean linen, with equal quantity of unhusked barley and boil along with the decoction of *Ajasringi* (*rhus succedanea*). When well boiled the unhusked barley should be separated from the other drugs along with which it was boiled. Then thrash the barley grains and place three-fourths of the entire mass inside the above prepared decoction. Then add to this one-fourth of the previously prepared pulverised drugs, mix well and lay by for fermentation. When the required fermentation has taken place, strain the liquid through clean linen and the *Tushodaka* is ready for use.

The methods of the preparation of *Saubirodaka* and *Tushodaka* have thus been described. This can be administered after the sixth or seventh night, for on expiry of this period the required fermentation generally takes place.

The other purgative drugs (*Shyama*, *Danti*, *Dravanti*, *Saptala*, etc.) may also be prepared for administration on the same principle as related above in connection with *Trivrit* roots.

A Purgative in Pitta and Kapha type of Constipation.

Collect the roots of *Danti* and *Dravanti*. Dry these drugs in the sun. Then mix with these honey and pasted pippali (round pepper) and cover well with *kusha* grass firmly tied up and well plastered with a layer of clay in the *putapaka* process. Dry it well and burn in cow-dung-cake fire. Take out when cool and administer in required doses, in constipation in diseases arising out of the derangement of *Pittam* and *Kapham*, along with other indicated drugs already spoken of in connection with the purgative preparation of *Trivrit*.

Another effective Purgative recommended in complicated ailments:

Take either of clarified butter or sesamum oil in equal quantity and boil adding to this a paste and a decoction made out of *Danti* and *Dravanti* in the usual process of preparing *Ghrita* or *Taila*. This preparation of clarified butter can effectively be used in cases of erysipelas, *Kaksha*, burning sensation of the body and *Alaji* and the oil in urinary disorders, cystitis, retention of flatus and obstructions of the bowels.

Chatusneha (clarified butter, sesamum oil, lard and bone narrow) prepared with paste and decoction of *Dravanti* and taken internally has a positive curative effect in diseases arising out of retention of urine, semen, faeces, wilful or otherwise, resulting in the derangement of *Vayu*.

Another Purgative in diseases of Pitta-Kapha Type.

R/

दत्ती	...	} Croton roots of two varieties. known as <i>Laghu</i> and <i>Brihat</i> .
द्रवन्ती	...	
मरिच	...	Blackpepper.
कनकाहया (नागेश्वर)		Mesuaferrea
यत्वासक	...	Fogonia arabica
विश्वभैषज (शुगडी)	...	Dry Ginger.
सृङ्किका	...	Dried Grapes.
चिता	...	Plumbago Zeylanica.

ाा Powder well and soak for seven successive days in cow's urine. Then take out and dry in the sun. To be administered with clarified butter in proper doses; when the medicine is well assimilated prescribe a diet of *Saktu* (powered barley) mixed with honey.

This preparation is indicated in indigestion, pain at the sides, jaundice, enlargement of the spleen and abdominal diseases arising out of the deranged condition of *Vayu-Kapham*.

Yet another Yoga.

हरीतकी	...	(Chebulic myrobalan).	20 tolas.
दत्तीमूल	...	(Pulv. Laghu Croton	16 ,,
		roots.)	
द्रवन्तीमूल	...	(Pulv. Brihat Croton	16 ,,
		roots.)	
पिप्पली	...	(Pulv. Long Pepper).	2 ,,
विष्व	...	(Pulv. Trivrit)	2 ,,

Mix well with 64 tolas of treacle. Divide the mass into ten large doses and administer every tenth day. No special restriction in diet and living is necessary, except the use of hot water for drinking and bathing purposes while using the confection. It is indicated in sprue, jaundice, piles, and skin affections arising out of the three Doshas (*Vayu, Pittam and Kapham*).

TRIVIDASTAKA.

(An excellant Eliminator for the rich people).

मुस्तक	...	(Cyprus rotundus)
बिड़ड़	...	(Baberang seeds)

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आमलकी	... (embelic Myrobalans)
गूगळी	... (Dried Ginger)
पिपत्ती	... (Long pepper)
मरौच	... (Black pepper)
दारुचिनि	... (Cinnamon bark)
तेजपत	... (Leaf of Lourus Cassia)
एताइच	... (Cardamon) aa. one part.
दक्षीभूत	... (Loghu variety of Croton roots). 2 parts.
सैख्व लब्धा	... (Rock salt). $\frac{1}{4}$ part.

Should be separately pulverised and seived through a clean piece of thin linen. Mix them well and pound them together with six parts of sugar and sufficient quantity of honey to make a confection. Cold water should be drunk after the administration of this medicine.

It is a curative agent in बस्तीश्लम् (colic in the bladder), excessive thirst, fever, vomiting, anasarca, chlorosis and mental dementia. It is a good eliminator of poison and its use does not require any strict dietetic observances. It is specially indicated in *Pittaja* affections. In combined derangement of *Kapham* and *Pittam* it should be administered with milk. It is prescribed for rich patients owing to its special dietetic character.

Barks used as Purgatives.

Take only the external skin of लोम्ब (symplocos racemosa) bark, and powder it. Divide the powder into three equal parts. Soak two parts in a decoction of the same bark and filter 21 times in the process of preparation of alkalis. Soak the remaining third part of the original powder in this filtered decoction and thereafter dry the mass in the sun. Soak this again in the decoction of Dashamulam group of drugs, when it is ready for use. The medicine is prescribed in the form of wines and confections already described while speaking of the *Trivrit* compounds.

Fruits used as Purgatives.

Of the fruits used as purgatives, *Haritaki* (chebulic myrobalan) stands pre-eminently as the best. Full grown, fresh fruits, free from invasion from the insects, should be selected. The stone is to be thrown away. Only the thick skin is to be used. The same processes of preparation of compound medicines as described in case of *Trivrit* are applicable here. *Haritaki* being a drug effective in regulating *Tridosha*, its compound preparations are said to possess the virtue of curing all sorts of

diseases and as such are considered as *Rasayana* (rejuvenator), nutritive, and curer of malignant sores and internal abscesses.

An effective Purgative.

R/

हरितकी	... (Chebulic myrobalans)
बिड़ड़	... (Baberang seeds)
सूपारि	... (Betel nut)
मैस्यवलवण	... (Rocksalt)
शुगड़ी	... (Dried Ginger)
मरीच	... (Black pepper) aa.
त्रिवृत	... (Trivrit) $\frac{1}{3}$ rd of the whole.

Pulverise, strain through a clean linen and mix with cow's urine and administer in proper doses

Yet another Yoga.

नलिनी फल	... (Lotus seeds)
शुगड़ी	... (Dried ginger)
हरितकी	... (Chebulic myrabolan)

aa. Pulverise and mix well with treacle and administer with hot-water in the required doses.

Another Yoga.

हरितकी	... (Chebulic myrabolan)
देवदारु	... (Cedus Deodara)
कुष्ठ	... (Root of alpotaxis auriculata)
सूपारि	... (Betel nut).
मैस्यवलवण	... (Rock salt)
शुगड़ी	... (Dry ginger) aa

Pulverise and mix with cow's urine and administer.

Chebulic Myrabolan prepared as a paste and taken along with the decoction prepared from the group of drugs known as *Pippaladya* and a little rock-salt induces immediate purging.

(To be continued).

ANUPANA IN AYURVEDA

BY

BHARADWAJA.

(Continued from our February, 1925 issue.)

SELECTION OF ANUPAMA ACCORDING TO DISEASES.

IN FEVERS :

<i>Medicines.</i>	<i>Anupana.</i>
Bt. Sarvajwarahara Lauha	Juice of ginger.
Jwarari Rasa	" "
Shulari Rasa	Hot water.
Kalpataru Rasa	4 grains powder of long pepper.
Jawara Dhumketu	Ginger Juice.
Sannipata Bhairaba Rasa	" "
Hinguleswar	Honey.
Tarun Jwarari	Sugar and water.
Achintya Shakti Rasa	Cold water.
Shleshma Shailendra Ras.	Hot water or ginger juice.
Tripurari Rasa	Ginger juice or honey or sugar.
Panchabaktra Rasa	Ginger juice.
Lakshmi Bilas Rasa	Conjee or milk or curd.
Trailokya Chintamoni	Dab-water. i.e., green cocoanut-water.
Ananda Bhairaba	Juice of Talmuli or pulverised
	Trikatu.
Tripura Bhairaba Rasa	Ginger juice
Mritothan Rasa	Pulverised round pepper, long pepper or dried ginger mixed with decoction of Arka (<i>calotropis gigantia</i>).
Nabajwara Sinha	Ginger juice
Ratnagiri Rasa	Decoction of <i>Dhaniya</i> (coriander) and round pepper
Sheetabhanji Rasa	Ginger juice
Sri Jayamangala Rasa	Honey and powder of Jiraka (Cumin-seeds)
Swachehanda Bhairaba	Ginger juice, juice of betel leaves or juice of the fresh leaves of <i>Galghashia</i> (<i>leucus cephalotus</i>)
Ahabari Rasa	Juice of Punarnava (<i>Doerhaavia diffusa</i>)

Suchikabharana Rasa	...	Green cocoanut water
Agnikumar Rasa	...	(1) In <i>Tridosha</i> (Sannipatik fevers) —with juice of ginger and powder of long pepper
		(2) In <i>Khapaja</i> fever with ginger juice
		(3) In diarrhoeatic fevers honey and decoction of <i>kutaja</i> (<i>kurchi</i> , <i>wrightia antidyseentrica</i>)
		(4) In Asthma with mustard oil and old treacle.
		(5) In sprue—powdered dry ginger
		(6) In Dysentery and fever—dry ginger powder ; or decoction of dry ginger and coriander seeds
		(7) In dropsy—decoction of the ten roots (<i>Dashamul</i>).
		(8) In <i>Catarah</i> —juice of ginger
		(10) In indigestion—with pulverised Labanga (cloves)
Rasarajendra	...	Juice of Tulsi leaves (<i>Ocimum album</i> —the holy basil)
Swachchanda-Nayak	...	Powder of round pepper and decoction of ten roots or juice of Nirgundi (<i>trifolia</i>) or of ginger.
Sri-Sannipat Mrittyunjaya		Juice of <i>Bhringaraja</i> (trailing eclipta)
Swarnagghtita Makaradhwaja		Juice of betel leaves
Khapaketu	...	ginger juice
Chandrasekhera Rasa	...	" "
Jwarantaka Rasa	...	Honey
Raseswar	...	Powder of <i>Trikatu</i> ; ginger juice or juice of <i>Chitraka</i> leaves (<i>plumbago Zeylanica</i>)
Jwaramatanga Keshari	...	Hot water
Jwarakalaketu Rasa	...	Honey
Brihat Kasturi Bhairava	...	Ginger juice
Sannipat Bhairava	...	Ginger juice
Brihat Suchikabharan Rasa		Green cocoanut water
Chandeswar Rasa	..	Ginger juice

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Nabajawarankusha	... Sugar and water
Bisweswara Rasa	... Cow's milk
Chintamoni Rasa	... Juice of the leaves of red plumbago rock salt and <i>Trikatu</i> powder.
Prachanda Rasa	... Ginger juice
Jayanti or Jaya Bati	<ul style="list-style-type: none"> (1) Sprue—Butter milk (2) Night-blindedness—juice of trailing eclipta leaves (3) Cough—honey (4) Cystic growth—cane-sngar, treacle and hot water. (5) Hæmoptysis—Cold water (6) Dropsy—Cow's milk (7) Urinary Calculus—Rice water (8) Spermatorrhœa—Honey (9) Jaundice—Cow's milk (10) Leprosy—Cow's milk (11) Strangury—Juice of the leaves of Himsagar, (irris.) (12) Fistula—Powder of dry ginger. (13) In fevers (general)—Honey, <i>Trikatu</i> powder and cow's urine. (14) Pittaja fever—Cow's milk. (15) Chronic fever—Clarified butter. (16) <i>Tridoshaja</i> or Sannipat fever—Honey and powder of round pepper.
Srimrityunjaya Rasa	<ul style="list-style-type: none"> ... In fevers with indigestion—Lemon juice. Acute fever—Juice of Tulsi leaves. Chronic fever—Old Sugar-cane treacle and powder of black cumin-seeds. Rheumatic fever :—the watery portion of curd.
Saubhagya Batika	... Juice of Shefalika leaves.
Chandanadya Lauha	... Decoction of red sandal wood.
<i>In spleen and liver enlargements.</i>	
Navayasa Lauha	... Juice of <i>Kokilaksha</i> leaves (long-leaved barlaria)

Brihat Lokenath Rasa	...	Ginger juice ; cumin seeds powder and old Sugar-cane treacle ; honey and powder of long pepper ; old treacle and powder of Haritaki (chebulic myrabolan) or only honey.
Mahamritunjaya Rasa	..	Hot water
Abhoy Labana	...	"
Guda-pippali	...	"
Rohikaya Churna	...	Cold water
Rasa-Raja	...	Honey.
Jamanikadi Churna	...	Hot water
Jakrit-plihodara Churna	...	Cold water
Briangadi Churna	...	Milk and powder of dried <i>punarnava</i> .
Sarbeswara Lauha	...	Cold water
Pippali Bardhaman	...	Milk.
Bt. Jakritari Lauha	...	Ginger juice
Bidyadhar Rasa	...	Honey and cow's milk
Jakritplihodarari Rasa	...	Juice of Khetra-parpati (oldenlandia corymbosa)
Pleehari Rasa	...	Ginger juice

BY THE WAY

BY

FREE LANCE.

All honour to Madras ! She is on the right track and getting far ahead of others while her elders, those who dubbed her "benighted" so long, are enjoying the slumber born of over-confidence and lethargy. The worthy Principal of the School of Indian Medicine and his colleagues have prevailed upon the Government of Madras not only to purchase a decent large house with a spacious compound for the School but also to allow stipends at the rate of Rs. 20/- per month to five women students of the school for one year. The stipendiaries will be further supplied with books and instruments at the cost of the Government, and on completion of the prescribed course they will be liable to serve Government if required for a period of not less than five years.

But Bengal ! Bengal is crying hoarse over everything and gathering nothing. The long expected and overdue report of the Ayurvedic Committee is, as I understand, just finished but it is "a long way to Tipperay yet"! Mighty brains and hair-splitting minds were entrusted with the task. They went on grinding for three long years and the pulv. they produced is impalpable. Perhaps it awaits blowing off either by the Government or by the Swarajists. May Providence provide better ! I confess to a sense of pessimism !

Early this month, Mahatma Gandhi laid the foundation stone of the Astanga Ayurveda College and Hospital on a decent plot of land presented to the college by the whilom Corporation of Calcutta. The elite of Calcutta and doctors and Kavirajes were present in large numbers on the happy occasion. The Mahatma's views on physic and physicians generally are wellknown. But on this occasion the Indigenous Systems of medicine both Kaviraji and Unani and their practitioners were made special targets of attack. It came with an ill grace not befitting the occasion. So far as the attack went against the know-all and cure-all Vaid or Hakims, I fully endorse the Mahatma's views. But the omission of a few good words for the vast brotherhood of humane physicians who are sane and conscientious mars the beauty and directness of the speech even of a Mahatma. Mahatmas speak with a superior intelligence born perhaps of selfless activity in matters relating to politics, religion, and society. But to condemn all Systems of Medicine from the transcendental heights of high philosophical ideals does not fit in with the work-a-day world and its miseries. And after all, the ideal of Ayurveda is doing good to humanity—"not for self, not for any earthly gain but for compassion with humanity". And this ideal is yet followed to some extent by the majority of Ayurvedic physicians who treat numerous patients gratis—unthanked and unsung.

I agree with the Mahatmaji when he speaks of "prevention" of disease as the great ideal; all Ayurvedic works insist upon it. But when a diseased condition arises as it must, for each individual is not gifted with the same stamina or the same strong mentality which is needed to understand and follow the laws of nature, the demand for the healer arises. To this demand may be ascribed the birth of medicinal treatment; and the form of

treatment based on a proper and deep study of mind and matter as inter-related is the safest and the best though it may fall short of the original super-ideal. The highest ideal man can seldom attain. So he is to rest satisfied with what best he can do in the circumstances of the world around him.

It is true that Nature assists the cure in many cases: It is equally true that in many others she must be aided with her own products. Medicines are these products of Nature properly directed and intelligently handled with an eye to cause and effect. Their judicious use is not going against Nature but helping her in her attempt to set right a disordered condition. I am at a loss therefore to find how Mahatmaji persuaded himself to utter the following words :—“Nature would do things for herself even for suffering humanity if we would but let Nature take her course”, when only recently he trusted himself to the surgeon’s knife when suffering from appendicitis. Surgical treatment is not Nature’s cure—for Surgery is an art devised by man. In Ayurvedic practice, there are still a good number of physicians who cure apparently hopeless surgical cases with the help of Nature’s herbs but the Mahatma would have neither the physician nor the surgeon. A good maxim this provided we could all follow the very strict rules of health recommended in Ayurveda. But even Ayurvedic works taught Surgery and the new school of Ayurvedists are keen to revive it !

“Certain section anxious to preach Ayurveda in a form detrimental to Science. They have got to be controlled. Bengal trying every means to combat them and has been successful. Hope “you will agree to this point. Some well-known Doctor-Kavirajes “published articles, called you fools, they say there can’t be any “good Kaviraj without Allopathy. Do you support this view ? “Think over this matter. Draw attention of other Kavirajes. Know “it cannot affect me. I am anxious welfare all India Kaviraj Community. Respectful greetings to.....excuse absence. “Inform deliberation.....” so ran the latter half of a very lengthy telegram addressed to an ex-Secretary of the last All-India Ayurvedic Conference by a Calcutta Kaviraj, none of the small fry, whose clamour for Orthodoxy has been the loudest of late. The telegram was of course treated with a smile and contempt. But it showed what Calcutta Orthodoxy was like ! Great minds have

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great thoughts but I of the smaller world wonder who said "there can't be any good Kaviraj without Allopathy!" But "know ye it can't affect me"! Can't it?

As expected, all attempts for the amalgamation of the three existing Ayurvedic institutions of Calcutta have ended in smoke. The deliberations of the special Committee of peace makers appointed by the Corporation to bring about the amalgamation took more than six months to mature and when the long expected model was on show after many recastings and remodellings, the sculptors were frightened into a nightmare over the design of their own creation. The Corporation should have known that self-sufficiency and self-advancement will never submit to any scheme for national advancement. This was proved beyond doubt in the breaking off of the amalgamation scheme. The tactics employed by the open-armed were too much for the open-hearted. They dissented and fled when they found themselves hit under the bolt! Instinct of self-preservation—that's all.

Reports of Societies, Etc.

A REPORT OF THE ASHTANGA AYURVEDA VIDYALAYA.

A pleasant function took place on 5th May when Mahatma Gandhi laid the foundation stone of the College and Hospital building of the Ashtanga Ayurveda Vidyalaya. The plot of land on which this ceremony was performed formerly belonged to the Corporation of Calcutta which had handed over the land to the Vidyalaya for furthering the cause of Ayurvedic and Unani systems of medicine.

There was a large and distinguished gathering including among others Sir P. C. Roy, Sjs. Nalini Ranjan Sarkar, Mr. D. N. Roy, Moulvi A. K. Fazlul Haque, Dr. Vandarkar, Mr. Jatindra Nath Basu, Dr. D. N. Moitra, Mr. Campbell, Professor, Trinity College, Kandy (Ceylon), Mr. Profulla K. Tagore, Mr. F. E. James, Dr. S K Datta, Rai Lalit M. Mitra, Dr. Moreno, Sj. Basanta Kumar Majumdar, Sm. Hemaprava Majumdar, Sj. Satish Chandra Das Gupta, Dr. B. N. Chawdhuri, Dr. S. P. Bhattacharjee, Dr. B N. Ghosh, Dr. Santosh Kumar Mukherjee, Editor, Indian Medical Record, Dr. Chatterji, Col. Goyle, Civil Surgeon, Howrah, Kaviraj A. C. Bisharad, Dr. D. Samanta, Kaviraj Satya Charan Sen, Mr. Tarit Bhushan Roy, Dr. Radha Kamal Mukerji, Babu Piyush

Kanti Ghose of the Amrita Bazar Patrika, Srijut Manmohan Pande and Dr. Sundari Mohan Das. There were 150 Kavirajes and 200 ladies present.

Mahatma Gandhi accompanied by Kaviraj Jamini Bhushan Roy came to the meeting at 3-30 p.m. and was given an enthusiastic reception. He was conducted to the dias by Kaviraj Jamini Bhushan, the Principal of the College and Mahamahopadhyaya Kaviraj Gananath Sen Saraswati M.A., L.M.S., the President of the Executive Committee.

The proceedings commenced with a song sung in chorus by little boys. This over, Mahamahopadhyaya Gananath Sen presented the address of welcome to the Mahatma printed in Hindi and Sanskrit.

The reading of the address being over the following articles were presented to the Mahatma:—(1) Fifteen books on Ayurveda containing the works of Mahamahopadhyaya Kaviraj Gananath Sen, Kaviraj Jamini Bhushan Roy and Dr. Devaprasad Sanyal, bound in Khaddar, (2) One silver "Karnika" (building implement). (3) A conch shell with one Sanskrit Sloka engraved on it. (4) One basketful of Khaddar yarns spun by the students and professors of the Ashtanga Vidyalaya. The report of the Vidyalaya read by Kaviraj Jamini Bhushan Roy showed satisfactory progress. It was announced in the meeting that the following gentlemen had promised their contributions to the Vidyalaya:—Kaviraj Gananath Sen, Rs. 50,000, Kaviraj Jamini Bhushan Ray, Re. 50,000, and Sj. Monmohan Pande, Rs. 5,000 yearly.

Mahatma Gandhi expounding his views regarding medicine, surgery, etc., said that he for one belonged to that school of thought which held that "prevention is better than cure." After his address, he laid the foundation stone of the college and hospital building, amidst cheers, with a silver trowel.

The following is the full text of Mahatma Gandhi's speech:—

Friends, it was not without the greatest hesitation that I accepted the invitation to lay the foundation stone of this great institution. You know that some years ago I performed the opening ceremony of the Tibby College whose presiding deity is my esteemed friend and brother Hakim Ajmal Khan. Even then it was not without hesitation that I performed the ceremony. I could not resist the invitation that was given to me by a bosom friend and little could I resist a similar invitation coming again from a bosom friend. But I would be untrue to myself and untrue to those assembled if I did not express my deepest thoughts about medicine and particularly about Ayurvedic and Unani medicines and the profession in general.

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MEDICINE AND SURGERY

It was in 1908, Mahatma said, that for the first time I reduced to writing my views about medicine and the medical profession, and I am not able—looking at it after so many years—to alter a single word of what I have said there. No doubt what I wrote in 1908 was compressed, it was a passing reference to a subject which was included among so many others which I had to deal with in a mere booklet. Since then I have expanded the same thought but I have not diminished the strength of the thought that I expressed in 1908. Everytime I approach medical men and their medicines I do so in fear and trembling, and it takes nothing away from my fear that I submitted to the loving knife of a Surgeon whom I only knew perfunctorily in the Yeroveda Jail. I had the fullest confidence in Colonel Maddock as a man and as a friend, but I had not the fullest confidence in his ways and in the medicines that he prescribed. If you were to go to him to-day he will issue a double certificate, one in my favour and the other against me. He will certify to you that to a certain extent I was a willing, obedient and a loyal patient, a more loyal patient he could not wish for. But he will also say and certify that I was one of the most difficult patients he had to deal with. He had to deal with my prohibitions. I will take this and I will not take that thing and my negations were far more than my ages. And therefore he always came to me in despair whenever he felt that he wanted me to put a little more weight.

It was with the greatest difficulty that he could persuade me to take so many of the medicines that he thought I should take and that I thought I not to take (laughter). Well there it is.

FAITH IN NATURE

I have merely given you a skeleton of my views about the profession, but perhaps you will better understand my views when I tell you that I belong to that noble and growing but still the small school of thought which believes more in prevention than in any cures, which believes in nature doing the things for herself even for suffering humanity if we would but let nature take her course. I belong to that school of thought which considers that the less interference there is on the part of doctors, on the part of physicians and surgeons, the better it is for humanity and its morals. I belong to that school of thought among medical men who are fast coming to the conclusion that it is not their duty merely to subserve the needs of the body but it is also their bounden religious duty to consider the resident within that body which is after all perishable. And I belong to that school of thought among medical men who consider that they will do nothing in connection with that body if what-

ever they do is going to impair in the slightest degree the soul, the spirit within. And it grieves me so often when I find some of my best medical friends and you will accept my word for it that I own so many medical friends throughout the world—but I assure you that it grieves me when they discuss with me the question whether there is such a thing as soul and when they tell me that if there was a soul it would not escape their deadly knife. Little do they know that the soul survives the knife and that the soul is not to be found by any probing of the knife however deep it may be (laughter). Therefore it was with the greatest hesitation that I have approached this function. I still wonder whether it is a real sign of civilisation when the number of hospitals in a particular place is larger than in another place. I wonder whether it is really a test of growth to find in the catalogues and in the directories of medical men that every year their sales are increasing by leaps and bounds and that the inmates in the hospitals and dispensaries are increasing. I really wonder whether it is a sign of real progress. However I know that is the other side of it. I don't want to labour only on one side of this question. But in all humanity I have placed my views for the consideration of those who are put in charge of the management of this great institution.

AYURVEDIC TREATMENT.

But I have hitherto confined my remarks to medicine and surgery in general, but when I come to the Ayurvedic and the Unani system I am filled with greater doubts. You may not know that even from my boyhood I have come in contact with many physicians, some of them known to be distinguished in their own localities. There was a time when I used to swear by the Ayurvedic medicine and used to commend it to all my friends who went in for western medicine, to go to these Ayurvedic physicians. But I feel sorry to have to own to you that I was undeceived and I found that our Ayurvedic and Unani physicians lack sanity. They lack humanity. Instead of that I found in them an arrogation that they knew everything (laughter), that there was no disease which they could not control (renewed laughter). I found that they believed that the mere feeling of the pulse could enable them to understand whether the patients were suffering from Appendicitis or some such other disease. When I found that their diagnosis was at fault, that it was incomplete, that in many cases, it was nothing but humbug.—I was filled with dispair. When I turned to the advertisements of medicines—shall I say from Kavirajes, Unani Hakims and Vaidyarajes,—I felt humiliated. I felt a sence of shame coming over me—these advertisements which pander to the besest passion of humanity, disfigure our newspapers and

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magazines I have handled magazines devoted to the education of ladies, I have seen magazines devoted to the education and information of youngmen, and I have found their advertisements alluring no doubt, profitable no doubt to those who advertise, these nauseating cures and nauseating things. I felt that they are cutting deep into the vitals of the suffering humanity. Therefore, whilst I am going to perform this ceremony of laying the foundation stone of this noble institution and whilst I do so with a prayerful heart and wish it all success, I want the organisers to note my limitations, to understand the note of warning that I have uttered to those who have sacrificed their wealth for the upbringing of this institution, to those who are called upon to devote their wealth to this institution. I utter in all humanity this note of warning. May this institution be of use to the real sufferers. May this institution take note not merely of the need of the body but of the imperishable soul that resides in that body. May this institution—may it never be said of this institution,—that it pander to the basest test of the humanity, that it panders to the basest test of the youths of Bengal—and I know the youths of Bengal. I know how their fair life is being sapped by the medicines that are poured down their throats, by physicians who prescribe in the work of the Lord Justice Stephen “the drugs of which they know little for the bodies of which they know less.” And so I plead as I pleaded in Madras at a similar function for sanity, for humanity, for truthfulness, for fear of God among those who are the present organisers of this institution and those who follow,” with their words I shall have much pleasure as soon as you give me a room to go to the place where I have to lay the foundation and I shall have equal pleasure in praying for the success of this institution.”

Mahatmaji was then taken to the southern corner of the plot where the foundation stone was laid by him amidst deafening cheers.

History of the College :—

Ayurveda, the Hindu system of Medicine and Surgery, which has long ceased to be taught and cultivated systematically as a science, is now generally taught as a literature accompanied with a training in the art of preparing medicines. It is certain that the system had its day of glory when it used to be taught as a practical science. Otherwise it could never have developed the branches of Anatomy, Surgery, Physiology, Pathology, Medicine and so forth so wonderfully as to draw the admiration of even great modern scientists. But it is deplorable that we, the modern Kavirajes, have mostly acquired a deep-seated habit in carrying on our profession, as it were, by selling the name of the ancient glory of Ayurveda without attending to

the cause of suffering humanity in an unassuming manner. Various efforts have been, from time to time, made in different parts of India to revive this ancient science, but the result has not been satisfactory mainly perhaps on account of the State support. The idea of establishing a College in Calcutta for a systematic study of Ayurveda with all its eight branches which go to make it a complete science originated with the late Mahamahopadhyaya Kaviraj Bejoy Ratna Sen about 40 years ago who in his excellent edition of Ashtanga delineated seven important points for the improvement of Ayurveda of which a College with indoor and outdoor hospitals was considered by him the most important. Unfortunately he died premature death and could not fulfil his long-cherished desire. The idea was afterwards developed by some eminent physicians of Calcutta and Kaviraj Jamini Bhuan Ray, a pupil of the late illustrious Kaviraj Bejoy Ratna Sen in consultation with the late Sir Ashutosh Mukherji and other distinguished men of India. We also discussed the subject with Sir Pardey Lukis, late Director-General of the Indian Medical Service, and it was told by him that a suitable institution for the teaching of Ayurveda on advanced and scientific lines will receive every help from Government. Thus encouraged we made bold to establish the present College in February, 1916, with a view particularly to revive the lost sections of Ayurveda in the domains of Surgery, Midwifery, etc., so as to make it capable of standing up in honourable competition with other modern systems by methods based on comparative study, research and experiments. It will not be out of place to mention here that it has been recently discovered that not less than 70 or 80 per cent of the modern surgical instruments are either identical with or closely allied to the instruments described in Ayurveda by Susruta and Bhagbat. The College has been carrying on its work in a manner which, I am glad to be able to report, has secured the commendations of many eminent men who have hitherto honoured it with their visits.

In this connection we deeply mourn the loss of Mahamahopadhyaya Kaviraj Bejoy Ratna Sen, Sir Ashutosh Mukherji, Kaviraj Biraja Charan Gupta, Kaviratna, Kaviraj Rajendra Narayan Sen Sastri, Dr. Suresh Chandra Bhattacharjee, Dr. Tej Chandra Bhattacharjee, Prof. of Surgery Kaviraj Jamani Bhusan Ray, a pupil of the late illustrious Kaviraj Bejoy Ratna Sen, whose life-long ambition is to follow his preceptor, has been hitherto spending his personal funds amounting to about Rs. 50,000 and in addition to this he recently contributed Rs. 50,000 to the College funds.

The Corporation of Calcutta has been kind enough to make the annual grant of Rs. 3500 in appreciation of the useful work it is doing for the indigenous system of medicine and the Health Committee have

recommended an increased grant. Besides this annual grant the Calcutta Corporation gave 1 bigha 13 cottahs of rent-free land on which the Foundation Stone of the College and Hospital building is being laid to-day by the revered saint of India.

Subjects taught in the College and the Curriculum of Study :—

The College imparts scientific and systematic teaching, both theoretical and practical, in all the eight branches (Ashtanga) of Ayurveda.

The College is divided into (1) The Sanskrit Department (2) The Vernacular Department (Bengali and Hindi).

The courses of study are the same in both the Departments.

The course of study for students in the Vernacular Department is for 4 years and that in the Sanskrit Department for 1 year more devoted to higher study of philosophy connected with Ayurveda.

The following are the Curricula of the College :—

*First Year Class :—*Botany, Materia Medica, Chemistry, Anatomy, Physiology and Practical classes in all these subjects.

*Second Year Class :—*Materia Medica and Practical Pharmacy; Anatomy with practical Demonstrations and Dissections—Physiology and Pathology.

*Third Year Class :—*Materia Medica and Practical Pharmacy, Surgical Anatomy and Dissections, Pathology, Medicine, Surgery, Midwifery and Hospital Practice (Indoor and outdoor).

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The Journal of Ayurveda

or the Hindu System of Medicine.

HON. EDITOR-IN-CHIEF:

MAHAMAHOPADHYAYA GANANATH SEN, M.A., L.M.S.

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THE JOURNAL OF AYURVEDA

Vol. I,

June, 1925.

NO 12.

THE TRIDOSHA THEORY.

A MESSAGE OF HOPE

To sufferers from incurable diseases, such as heart-disease, nervous break-down, kala-azar, paralysis, asthma, phthisis, etc., that these diseases even in their most chronic and hopeless stages can be cured by a Mahatma.

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JUNE, 1925.

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THE TRIDOSHA THEORY.

If at all Ayurveda has to play an important part in the future of Modern Medicine, it can be in only one way. It is by a scientific study of Ayurveda, to know how far the theories and practices of Ayurveda advance the modern knowledge and practice of the healing art. Science is quite independent of race feeling, and is above all considerations of bias and conservatism. It stands on the firm basis of eternal truth and inherent worth. We would not demand attention to Ayurveda on the plea of its divine inspiration, but we consider it deserving of due consideration as a store-house of knowledge bequeathed by the great thinkers and observers of yore, who laid the foundation of their science and art on truths arrived at either by intuition or by observation. Considerations of personal gain were not springs of action in their case. They were moved by genuine compassion for humanity. The clinical descriptions and theories of Hippocrates barely stand the scrutiny of modern scientific tests, but Ayurveda can give a fresh stimulus to the investigation of diseases in its ætiology and treatment. It does great credit to the ancient sages who worked without modern paraphernalia that their theories and practices hold their own even to this day. There can be little doubt that the ancient sages were great observers and profound thinkers. A hypothesis is a generalised terse statement which covers some of the observed facts; when it explains all the observed facts it becomes a theory. The *Tridosha Theory* of Ayurveda is believed to be capable of explaining all

observed facts with regard to the symptomatology, diagnosis and treatment, of all diseases that human flesh is heir to. Now the reasonable contention would be that this theory must stand the modern tests or there must be some alternative theory or theories to explain all the facts. The question would naturally arise, what will be the fate of the bacteriological theory if "*Tridosha*" theory is found to be correct. Another difficulty would arise as to whether Endocrinology is compatible with the "*Tridosha*" theory.

To have a clear insight into the subject, we have to consider first the causation of disease, which depends primarily on two main factors besides some auxiliary ones:—(1) the nature of the invading organism, and (2) susceptibility of the subject (vitality of the system invaded).

Modern Western Medicine would contend that the nature of the invading organism, how it grows and how it is transmitted, is of great importance in determining the causation of disease. Bereft of this knowledge we will be groping in the dark, especially while considering the causation of the epidemics, we ought to know how to stop their extension and how to prevent their recurrence. In short, the progress of preventive medicine stops short without the aid of Bacteriology and Parasitology. This, of course, leaves out the deficiency diseases or diseases of the metabolism and a few other diseases caused by errors in diet, etc. How then can the Ayurvedic theory of "*Tridosha*" help us in Preventive Medicine and Public Health questions? Our answer is that Ayurveda may help us much even in this way, if we can understand its deep philosophy and follow its principles of personal and preventive hygiene. Leave alone the treatment of diseases; the creation of a healthy mind in a healthy body is considered as the most important object in view by the Ayurvedist. He believes that this

alone can give immunity to invasion by extraneous organism giving rise to diseased conditions.

When we consider the question of susceptibility of the individual in modern medicine, we find our progress checked abruptly. When once the invading organism has gained a foothold, we are at a loss how to deal with it. The protective functions of the body, what people call the defences of nature, work in their own way (but how, we do not know fully) and cure many of the diseases. There are specific cures in modern medicine for about 12 to 15 diseases. But how to deal with the others? Modern medicine leaves the rest to Nature giving symptomatic treatment. In this fix, we should turn to Ayurveda, which tries to explain the workings of these protective functions. It is contended in Ayurveda that so long as these functions are kept up in their normal condition, the invading organisms are powerless to act. It is but too true. Tuberculosis is a great example illustrating the point. But it is inconceivable that all people will keep up to their proper diet, conduct and environment. Such an ideal state of thing has not been possible till now under the sun and so there are always individuals who become susceptible in every community.

In the West, with the improved sanitary conditions, water-supply and model dwellings, etc., certain improvements in the health of the nation have been effected. But there are far greater evils in alcohol, overwork, mental worry, godlessness, sudden variations in climatic conditions, social indulgences, etc., which are beyond the control of Nature or Government established by the people. These conditions lower the resistance and increase the susceptibility.

In the East, the conditions have been different until lately. There was less of over-work and worry in former times but the present struggle for existence and change in surroundings aided by impure water, scarcity of food

and water bad sanitation, squalor and poverty, early marriages, neglect of physical culture, the present methods of close school education, all increase the susceptibility of the people and lower their vitality. No wonder then that malaria, influenza, cholera, plague, etc., carry their usual tolls. So the question of susceptibility of the individuals in a community can not be shelved any longer and the remedy must be sought in fields not yet explored.

Now, can you control or guard against these invasions unless you are well acquainted with the protective functions of Nature? In modern medicine Immunology attempts to study these functions. It is here we find that Ayurveda excells Western Medicine. The ancient authors knew the existence of micro-organisms. Reading about Leprosy and Skin Diseases we find in *Sushruta* and *Baghata* a mention of the causative agents as small organisms invisible to the naked eyes, round and copper coloured, etc. They are said to circulate in the blood. In speaking of contagious diseases, *Sushruta* said, "They may be carried by the breath of an infected person; by the clothes, by contact, by eating from the same dishes, by even wearing the flowers used or worn by the patient." Leprosy fevers and consumption are stated to be transmitted in these ways.

Now if Ayurveda can contribute to the progress of Medicine in enabling us to understand the protective functions of the body, how does it do this? Here we find that Ayurveda assumed the existence of the three Doshas or principles. To call them humours will be a misnomer. To call them humours will limit their nature and application in the light of modern science. So it would not be wrong if we retain the word 'Doshas' which include both physiological and pathological functions. Physiological, as they have to carry on the normal metabolic, excretory, digestive, nervous and circulatory processes, etc., and pathological, when one or more of them being in excess or

diminished or in an unnatural combination give rise to diseased conditions. The resulting disease is due to the irregularity of the Doshas which reduces the resisting capacity of the body. The idea is that if we set right the Doshas and bring them to their normal proportions, the disease will be cured. On this fundamental theory which is quite practical in as much as it deals with the properties of drugs in their action on the Doshas, Ayurveda gives the symptoms of the Dosha or Doshas deranged, by which we may find the particular derangement and treat accordingly. In modern science, diseases are named according to the causative agent as Leishmaniasis, Filarisis, but the authors of Ayurveda take the most prominent symptom and name the diseases by the symptom group and sub-divide them according to the particular Doshas usually deranged.

Now, if we want to take advantage of Ayurveda in the advancement of science we must know the nature of the *Doshas* and must go into a detailed study of the functions of these *Doshas*, first physiological and then pathological. No sane man would contend that modern science is all perfection so let us arrive at a clue by a study of Ayurveda.

A systematic study and a brief presentment of this subject has been written by the Hon. Editor-in-Chief of this Journal and the first instalment of it appears elsewhere in this issue. We hope they will be studied with keen interest.

A. C. B.

We take pleasure in announcing with thanks that the Government of Madras Local Self-Government Department have sanctioned the purchase of the **Journal of Ayurveda** for the Indian School of Medicine.

Original Articles.

THE THEORY OF TRIDOSHA OR TRIDHATU

BY

MAHAMAIOPADHYAYA KAVIRAJ

GANANATH SEN, SARASWATI, M.A., L.M.S.

As the foundation of Ayurveda rests on this theory, I would endeavour, first of all, to explain the terms Vayu, Pitta and Kapha, as understood by Ayurvedic writers of old and then to explain the theory.

The Meaning of Tridósha or Tridhátu.

The Ayurvedist believes that all physiological functions are controlled by three principles which are, strictly speaking, called *Dhátus* when they are normal, and *Dóshas* when they are abnormal, the last expression being often used in a general sense.

Váyu or life-force [from Vá (वा) to move]— The first of these, *Váyu*, is the motive or dynamic principle, which causes the various visible and invisible motions in the body. It is born with the first cell which when impregnated begins to divide into many cells and becomes gradually organised through the differentiation of the cells into different structures. It creates blood-vessels, lymphatics and nerves and pervades the complex organism. This inherent cell-force manifests itself later on in the higher evolution known as nerve-force. But this nerve-force is not the whole connotation of *Váyu* as some people understand. It is the differentiated or more crystalized form, as it were of *Vayu* and is manifest only in higher forms of life. But the cell-energy persists in every cell. A man, for instance, grows a tumour. It becomes gradually organised; blood vessels and nerves and lymphatics grow into it. Gradually if it comes in contact with hard substances, a horny growth takes place on it. Who guides all these growths? It is this life-force or cell-force, called *Vayu*. (Cf. Greek *Bios* meaning life, as in Biology). This explanation

1. “उत्साहोच्चाप नश्वासचेष्टा धातुगतिः समा।

सभो मीनो गतिमतां वायोः कर्माद्विकारजम् ॥” — Charaka, Sutrasthanam,

Chapter XVIII, V. 42.

1925.]

is not my own invention. *Vāyu*, according to Charaka Samhita is "the force that moves and holds all the functions of the body in equilibrium, "that manifests itself in different nerve-centres that "carry sensation and motion, that control the digestion, the circulation and the glandular and excretory activities. It causes the differentiation of parts in foetal development. Its action manifests itself also in the processes of intellection and feeling."² Thus it has been rightly said that "Vayu guides all functions pertaining to Pitta and Kapha, which are 'lame' without its lead".³ Such a conception of Vayu is not incompatible with the teachings of modern physiology.

Pitta—The Consuming or Metabolic Principle.

Pitta is the second principle. It is the principle which manifests itself in different forms in different chemical activities, mainly in alimentary digestion and general metabolism. Through certain chemical changes in the ingested food and in the tissues it helps the absorption and metabolism of the nourishment that is available to the body. As a result of this, it keeps up the equilibrium of heat in the body. It is therefore sometimes called "Agni (अग्नि) or fire."⁴ It occurs in a subtle imperceptible form, and in a crude form. The subtle form manifests itself in the various crude forms, e.g. secretions like gastric juice, bile, pancreatic juice, etc., and helps the digestion in and absorption from the alimentary tract. This is called "*Kaya-agni*" (कायाग्नि) or "*Jatharagni*" (जठराग्नि)—"the Alimentary Fire". There is another form of diges-

2. वायुस्तत्त्वयन्तधरः, प्राणोदानसमानव्यानापानात्मा, प्रवर्त्तकशेषानासुचावशानां, नियन्ता प्रणेता च मनसः, सर्वे निद्रायाणामुद्योजकः, सर्वे निद्रायार्थानामभिवोद्धा, सर्वशरीरधातुव्यूहकरः, सम्बन्धकरः शरीरस्य, प्रवर्त्तको वाचः, प्रकृतिः स्पर्शशब्दयोः, शोवस्पर्शनयोर्मूलस्, हृष्टोत्साहयोर्योऽनः, सभौरणोऽन्ये दीपसंशोषणः केसा वहिमलानां स्थूलाणुस्तोतसां भेजा, कर्त्तागर्भाकृतीनां, आयुषोऽनुवृत्तिप्रकारयभूतो भवत्यकुपितः ॥—Charaka, Sutrasthanam, Ch. XII, 8.

3. पितॄं पङ्कुः कफः पङ्कुः पङ्कुवो मलधातवः ।

बायुना यत् नीयन्ते तत् वर्षन्ति मेघवत् ॥—Sharangadhar, Pt. I, Ch. V. 22.

4. अग्निरेव शरीरे पितॄन्तर्गतः कुर्पिताकुपितः शुभाशुभानि करोति, तदयथा—पक्तिसपक्ति दर्शनमदर्शनं मात्रामात्रलम्बणः प्रकृति-विकृतिवर्णोऽशीर्थं भयं क्रीडं हृष्टं मोहं प्रसादं मित्येवमादीनि चापराणि इन्द्रादौषिण ॥—Charaka, Sutrasthanam, Chapter XV, 15. Vide also Sushruta, Chapter XV.

5. जाठरो भगवानग्निरीश्वरोद्दस्य पाचकः ।

सौक्राद्रसानान्ददानो विदेकुं नैव शक्यते ॥—Sushruta, Sutrasthanam, Ch. XXXV, 24.

tion—the metabolism in the tissues which is carried on by the subtle form known as the *Dhatwagni* (धात्वग्नि) or “the tissue fire.”⁶ On the mental side, another form of the subtle substance (साधकपित्त) is said to circulate in the blood (as internal secretion?) and to influence the memory and mental contentment. Further, material for certain sensations is also cooked by Pitta. They say that at the end of the retina a chemical process takes place by which the image is imprinted for the time being on the sensitive surface. In western physiology, it is the photo-chemical substance—which is probably identical with what the Ayurvedist calls “*Alochaka Pitta*” (आलोचकपित्त). The colouring matter of the blood is also said to arise from the action of another form of Pitta known as “*Ranjaka Pitta*” (रञ्जकपित्त—Hæmoglobinogen?) that is said to exist in the spleen and liver(?). In one word therefore you can take *Pitta* as the one great principle which guides all chemical activities that are needed to sustain life.

Kapha—the Cooling or Preservative Principle.

I will next take up *Kapha* or *Sleshma*, the Cooling or Preservative Principle. It is said that just as there is the consuming principle which keeps up the fire burning, there is another principle which keeps up a certain amount of coolness and preserves the tissues from burning away. This cooling principle keeps the body cool giving normal secretions which are preservative in their purpose. For instance, it always induces the secretion of a cooling or mucous substance in the mouth and nostrils, in the respiratory passages, in the eyes, in the stomach, in the joints, etc. Whenever there is friction, wherever there is chance of drying up, wherever there is heat-production, there comes in this principle manifesting itself in the secretion of preservative fluids.⁷ As there are several forms of crude Pitta like gastric juice, bile and

6 सप्तभिर्देहधातारो धातवो द्विविधं पुनः ।

यथा स्वमयिभिः पाकं यानि किङ्ग्रप्रसादवत् ॥—Charaka, Chikitsa, Chapter XV, V-10.

7. सन्धिसंस्थे पराम्बी इनरोपणपूरणहृष्णतपर्णगावलस्यैर्यक्षतं स्नेहमा पञ्चधा प्रविभक्त
उदककम्भिण्यानुग्रहं करोति ॥—Sushruta, Sutra, Chapter XV, 5.

And again—

सोम एव शर्वरे स्नेहमाल्यगतः कृपिताकृपितः शुभाशुभानि करोति । तदश्या—दार्ढ्यं
गैयिक्यसुपचयं कार्यसुत्माहमालस्य हपतां क्लोषतां ज्ञानमज्ञानं वुद्धिं सोहमेवमादीनि
चापराणि इन्दुदीनि ॥—Charaka, Sutra, Chapter XII, 16.

1925.]

pancreatic juice, so also this principle is principally manifested in several tangible forms like epithelial and endothelial secretions, e.g., synovia, mucus, normal lymph, etc. These crude forms of *Kapha* known as "Rasaka", "Tarpaka", "Shleshaka", etc., are identical with mucus, synovia, normal lymph, etc. On the mental side too a subtle form of *Kapha* is said to circulate in the blood and produce a damping and cooling effect on the mind giving patience and power of inhibition so as to check the restlessness of *Rajas* the mental principle that urges to action and agility.[†]

Disturbance of Tridhatu or Tridosha.

Let us now consider some symptoms caused by the disturbances of Tridosha equilibrium. When one of these principles, for instance Pitta, is accentuated (पित्तवृद्धि), the subject feels heat all over his body ; he feels burning sensation in the eyes and in the hands and feet ; he desires cold baths and cold drinks ; his digestion is upset—by over-secretion of acid in the stomach ; a larger amount of bile is also secreted from the liver and the stools are deep yellow. In the whole system, there is evidence of increased combustion creating great hunger and thirst. On the other hand in failure of Pitta (पित्तचय), the patient's body temperature remains sub-normal ; the gastric juice and bile and other digestive juices are secreted poorly ; there is total anorexia. The indigestion is of a different type—that of deficiency. The food is passed undigested and the patient soon becomes anaemic partly through non-assimilation of food and partly through failure of 'Ranjaka Pitta' (the original colouring principle of blood).

Take another instance—a man's *Kapha* principle is accentuated (कफवृद्धि). He is said to have caught a cold. His nasal mucous membrane secretes more than is necessary to keep it moist. The mouth becomes full of saliva. The stomach does not function properly and becomes full of mucus. The joints become somewhat turgid and painful with increased synovia. The patient feels great lethargy and lassitude. On the other hand, if this principle is on the wane (कफचय) the skin becomes rough and dry, there is increased heat and thirst with sleeplessness. The joints become dry and stiff through failure of synovia and the various mucous membranes become parched.

If one is suffering from derangement of Vayu, there is either general nervous debility or high nervous tension. In the

[†] According to Ayurveda, *Rajas* is the mental principle of action and *Tamas* the mental principle of inhibition. These when deranged cause mental diseases."

first case, he finds himself weak and debilitated in all functions. He finds the secretory and excretory activities required for digestion and normal absorption below par. He finds his bodily and mental activity subnormal. Such a case is often called neurasthenia or nervous debility—the Ayurvedists call it *Vayu-kshaya* (वायुक्षय) or the waning of Vayu. Take the other case, say one of Hysteria. A girl gets violent contractions of the muscles of her hands and feet. She gets cramps and fits. Her vision and hearing may be more acute than normal. These are manifestations of *Vayu-Vriddhi* (वायुवृद्धि)—(the hyper-functioning of Vayu).

The Ayurvedic physician instead of treating this or that symptom in such cases treats the deranged principle or principles. He wants to bring about the normal state of the *Doshic* principles in the body according to the therapeutic methods depending on the theory of Tridosha.⁸ The subject is such that a much longer discourse will be needed to deal with all the symptoms of Kshaya (waning) and Vriddhi (waxing) of the three principles in different phases and with the pathological and therapeutic laws which are based on the working of these principle. But I hope it will be clear from what little I have said above that this theory of Vayu and Pitta and Kapha is not merely speculative but is highly practical from the view-point of the Ayurvedist, with whom, it is the key-note of all physiological functions. When one thoroughly grasps this theory, many intricacies of the symptoms of diseases will not only become intelligible to him but will also be amenable to his methods of treatment. This is every day experience.

The Theory of Tridōsha enunciated.

The theory may be summarised thus in three aspects :

A. *The Physiological Aspect.*

i. There are three principles (called Dhātus or Dōshas known as *Vayu*, *Pitta* and *Kapha* which guide all physiological functions.⁹

8. चौणा वर्द्धितव्याः, हङ्गा डासवितव्याः, समाः पालवितव्याः; —*Sushruta*.

9. नित्याः प्राणभूतां देहे वातपित्तकफाम्ब्रयः।

विकृताः प्रकृतिस्था वा तान् वुभुत्सेत पस्तिः॥—*Charaka Sutra*, Ch. 18, 41.

सर्वं एव खलु वातपित्तम्भागः प्रकृतिभूताः पुरुषस्वापन्नेन्द्रियः वलवर्णसुखोपन्न-

मायुषा महतीपपादवन्ति।—*Charaka Sutra*, Chapter XXII, 17.

2. The maintenance of their equipoise or equilibrium means health.¹⁰

3. The disturbance of their equipoise or equilibrium leads to disease through perversion of physiological functions except in the case of 'Agantu' diseases (i.e., those caused by trauma, poisoning, etc.) where the disturbance comes later.¹¹

B. The Pathological Aspect.

1. The etiological factors described hereafter disturb the equipoise of the Doshas (or principles) according to definite laws and the abnormality manifests itself either in the waning (क्षय) or the waxing (वृद्धि) of the principle (or principles) deranged according to the nature of these factors¹²

9 वातपित्तश्चेष्माण एव देहसम्बहुततः । तैरेव अच्यापन्ने रधोमध्योऽमन्त्रिवदैः शरीर-
मिद् धार्यते अगारसिव स्थुलाभिस्तिस्थभिरतस्त विस्तुणमाइरेके ॥—“Sushruta,
Sutra, Chapter XXI, 2.

विक्रिताविक्रिता प्रन्ति शरीरं वर्त्यन्तं च (Astangahridayam, Sutra,
Chapter I, V)

विसर्गादानविचेपैः सोमसूर्यानिला यथा ।

धारयन्ति जगद्वैष्ट कफपित्तानिला स्था ॥—Sushruta, Sutra, Chapter XXI, 8.

सर्वशरीरचराः खलु वातपित्तश्चेष्माणः सर्वस्मिन् शरीरे

कृपिताकृपिताः शुभाशुभानि कृवन्ति ॥—Charaka, Sutra.

10 विकारो धातुवैषम्यं साम्यं प्रकृतिरुच्यते ॥—Charaka, Sutra, Chapter IX, 3.

य एव देहस्य समा विहृते त एव दोषा विषमा वधाय ॥—Astanga-Hridaya,
Chapter XI.

11. सर्वं एव विकारा निजा नान्तरं वातपित्तकफेभ्यो निवर्त्तन्ते ॥—Sushruta, Sutra,
Chapter XIX.

स्वधातुवैषम्यनिमित्तज्ञा ये विकारसंघा बहवः शरीरे ।

न ते पृथक् पित्तकफानिलंभ्य आगन्तवस्त्वं च ततो विशिष्टाः ॥—Charaka, Sutra,
Chapter XIX, 15.

आगन्तुहिं व्यथापूर्वसुत्पन्नो जघन्यं वातपित्तश्चेष्माणं वैषम्यमापादयति ।

निजे तु वातपित्तश्चेष्माणः पूर्वं वैषम्यमापयन्ते जघन्यं व्यथासभिन्वर्त्तयान्ते ॥

Charaka, Sutra, Chapter XX, 5.

12. दोषा एव हि सर्वेषाम् रोगाणमिक्षारणम् ॥—Astangahridaya, Sutra,
Ch XII, 30.

2. The abnormal condition of each of the three principles gives rise to definite symptoms in special areas or on the general conditions which show clearly which principle is deranged and how it is deranged.¹³

When the abnormal condition persists, definite changes occur in the particular tissues (दुष्ट) concerned as the result of the affection of areas (स्थानसंश्य) causing pathological changes (दुष्टविकृति) in them. The condition has been divided into six stages. † In the case of trauma and other extraneous causes, the pathological condition comes first and the derangement of the *Doshas* follow leading to further similar changes.

C.—The Therapeutic Aspect.

1. All substances—food, drugs, exercise etc., have certain properties (गुण) which act on the three principles

यथावलं यथासञ्च दोषा वज्ञा वितन्वते ।
रुपाणि, जहति चौणाः, समाः स्वं कर्म कुर्वन्ते ॥
जयः स्थानं च इङ्गिश्च विज्ञेया त्रिविधा गतिः ॥

—*Astangahrdaya, Sutra*, Ch. XI, 44.

13. These symptoms have been enumerated briefly in the following texts :—

बातचये मन्दचेष्टाल्पवाक्तमःप्रहृष्टौ मूढसंज्ञताच । पित्तचये मन्दोषाग्निता निष्प्रभवत्वा ।
श्री अचये रुचतालदाह आमाशयेतराशयेयानां ग्रुच्यता सम्बिशेषित्वा रुचा दीर्घल्यं
प्रजागरणच्च ।—*Sushruta, Sutra*, Chapter XV, 9 Also बातव्रडौ
त्वक्प्रारुद्धं कार्यं कार्यं गातस्फुरणसुषाकामिता निद्रानाशोत्पवलवत्वं गाढवर्चस्त्वच्च ।
पित्तचयौ पीताभसता सन्तापः शैतकामित्वमत्यनिद्रता मूर्छा बलहानिरिद्यदीर्घल्यं
पीतविन्मूवनेवत्वच्च । श्री अव्रडौ शैक्षा शैत्यं स्थैर्यं गौरवमवसादसन्द्रा निद्रा
सम्बिश्चेष्टय ॥—*Vide also Charaka, Sutra*, where these symptoms
have been enumerated in extenso.

† These six stages are known as (1) सञ्चय or the stage of gathering strength, (2) प्रकोप or the explosive stage, (3) प्रसर or the stage of extension (4) स्थानसंश्य or the affection of particular areas, (5) व्यक्ति or morbid tissue-changes in such areas, (6) भेद or the climax stage when the disease is well established and calls for urgent measures, e.g., surgical interference, etc. The symptoms of all these conditions will be found elaborately described in *Sushruta, Sutra*, Chapter XXI.

in definite ways. In the case of food and drugs, the effect varies according to taste, (रस) the chemical changes undergone in the alimentary tract (विपाक), immediate constitutional effect (बौद्ध्य), e. g., feeling of internal heat and specific action (प्रभाव) on the constitution generally and on diseased conditions.¹⁴

2. The ultimate goal of treatment is restoration of the equipoise or equilibrium of the three principles (दोष) and of the tissues (दूष) by the employment of food, drugs, exercise, enemata, etc. as are known to act (a) either against the deranged principles (हेतुविपरीतचिकित्सा) or (b) against the diseased condition particularly by specific actions (व्याख्यिविपरीतचिकित्सा) or (c) against both (हेतुव्याख्यविपरीतचिकित्सा)। The remedial agents employed are sometimes similar in nature to the deranged principle or to disease-symptoms or to both (e.g., hot application for inflammation, purgatives in dysentery, etc). This is called (विपरोतार्थकारिचिकित्सा ॥)

3. The preservation of health (Preventive Medicine) mainly depends upon the maintenance of this equipoise by suitable food, air, exercise and the other measures recommended for health (स्वस्थबन्ध) as—daily and seasonal routines (दिनचर्या & ऋतुचर्या), Brahmacharyya (व्रह्मचर्य) or sexual continence, etc. These measures include the occasional use of particular kinds of food and modes of living and remedial agents to counteract the normal variations of the *Doshas* according to daily and seasonal disturbances (e.g., the use of laxatives in Autumn when Pitta is deranged).

^{14.} For instance, substances with sweet, sour or salt taste subdue Vayu ; those with astringent, sweet and bitter taste subdue Pitta ; those with astringent, pungent and bitter taste subdue Kapha ; and so on. The specific action (प्रभाव) of certain substances, however, always predominates over their general effect on the *Doshas* and is very important in the case of certain drugs. For details of the subject, vide Sushruta, Sutra, Chs. 40, 41 and 42 ; also Vaghbhata (वाग्भट), Sutra, Chs. 1, 9 and 10, and Charaka, Sutra, Chap. XXVI.

VEGETABLE DRUGS IN AYURVEDA.

THERAPEUTICS OF ARJUNA,

BY

KAVIRAJ A. C. BISHARAD, VISHAGABHUSHAN, M.R.A.S. (LONDON).

SYNONYMS :

SANS : Kakuva, Nadisarjja, Indradru, Beerabriksha, Beera, Dhavala. Arjuna-nau a, Sathadruma, Hridrogabairi (*Madan Pal*).

HIND : Khôa, Kauha ;

MARHATTI : Arjun, Sadhara and Saradhol.

BENG : Arjun.

CANARESE : Tangromandi.

GUJRATI : Kadoa.

TELEGU : Matichettu.

ASSAM : Arjun.

LATIN : Terminalia Arjuna.

HABITAT : It is available almost in all parts of Bengal, the United Provinces, Central India, Southern India and Ceylon. It is a big- sized tree with brownish white bark.

PARTS USED : The thick bark specially of very old trees are preferred. It has an agreeable astringent taste. Leaves are also used in certain cases.

CHEMICAL COMPOSITION : The bark contains about 15% tannin and the ash of the bark contains 34% of almost pure calcium carbonate.

USES IN AYURVEDA.

Several passages from different writers are quoted here as to its therapeutics :—

ककुभः शोतल भरनक्ततचय विषास्त्रजित् ।

मेदोमेह ब्रग्नकफपित्तहृदरोगहृतसरः ॥

—MADAN PAL.

Kakuva is cooling, laxative, and is useful in wounds, ulcers, contusions, promoting union of fractures, fattiness, heart-disease, urinary troubles, and diseases of *Kapha* and *Pitta* type. BHAVA-PRAKASHA speaks of Arjuna in the identical strain :

ककुभः शोतलो हृद्यः क्ततचय विषास्त्रजित् ।

मेदो मेहब्रणान् हृन्ति तुवर कफपित्तहृत् ॥

1925]

RAJABALLAVA speaks of the bark as :

पर्थः पथः चते भग्ने रक्तस्तम्भनक्षयो ॥

Partha (Arjuna) is beneficial in ulceration, fractures, haemoptysis and strangury.

RAJA NIGHANTU speaks of it as :

अर्जुनस्तु कषायोषणः कफस्त्रो दुग्धोधनः ।

पित्तश्वस्त्रपात्तिं ध्रो मारुतामय कोपनः ॥

Arjuna is astringent and heating in action, a destroyer of *Kapham* and corrects ulcers as an antiseptic. It cures thirst, and is indicated in the derangements of *Kapham*, *Pittam* and *Vayu*.

In the treatment of haemoptysis CHARAKA prescribes pulverised Arjuna-bark internally along with equal quantity of pulverised red-sandal wood, sugar and rice-water. Externally its leaves are recommended for covering ulcers and sores.

BAGBHAT speaks of an ointment prepared of Arjun-bark and honey as useful in acne.

SUSRUTA found the decoction of Arjuna-bark and white sandal wood, prepared in the usual way, effective in spermatorrhœa, and HARITA recommended its decoction in gonorrhœa.

In strangury BAGBHAT advises the administration of the decoction of the bark.

The bark was also found effective in the treatment of diarrhoea, dysentery and sprue. The bark, well pounded with goat's milk and administered with the same *Anupana*, stops the blood in dysentery.

CHAKRADATTA : Of all the Ayurvedic authors CHAKRADATTA made the most of this drug, as he recommended it in various diseases such as dysentery heart disease, fracture and debility.

The following preparation is recommended in heart disease :—

Bark of Arjuna	...	2 tolas
Cow's milk	...	4 oz.
Water	...	12 oz.

Boil till the water is evaporated and administer.

In *Garuda Purana* we find a passage where a decoction of "अर्जुनस्त्वं लचासिङ्गं चौरं शोज्ज्वरं हृदामये" — where a decoction of Arjuna bark prepared in milk is recommended in diseases of the heart.

In our experience we have found it very effective if administered daily every morning on empty stomach in the following manner :—

Thick bark of Arjuna	...	½ tola.
Cane sugar	...	2 tolas.
Cow's milk (boiled)	...	8 oz.

The bark should be well pounded and mixed with milk and sugar and administered. Numbers of heart cases with complicated symptoms, such as endocarditis, mitral regurgitation, pericarditis, Angina, showed rapid improvement in every respect when placed under this treatment for some length of time and a regular use for a year entirely removed all distressing symptoms.

Pulv. Bark is also recommended to be used with Cow's ghee and sugar in heart disease.

In fractures CHAKRADATTA advises the use of pulverised Arjuna-bark with milk and ghee.

In treatment of Phthisis the author of BIABAPRAKASHA eulogises the merits of the following preparation :—

Pulverised Arjuna-bark should be soaked and dried seven times successively in the juice of Basaka-leaves (*adhatoda Basaka*, and should be administered as a linetus well mixed with honey, sugarcandy and cow's ghee. It stops the blood in the sputum and clears up the sores and cures them. We use this mixture as an *Aripana* in the treatment of consumption along with reduced minerals, such as pearl, coral, gold, lead and mica. In many cases the effect was very encouraging.

Khory in his *Materia Medica of India*, speaks of Arjuna-bark as follows :

"Astringent and Tonic, given in Heart Disease. Locally used as a wash for wounds, ulcers, contusions and especially used in promoting union of Fractures and dispersion of Ecchymosis, Internally largely used by the natives in Hæmorrhagic and other Fluxes and are Lithotropic."

We would request our brother practitioners to try fresh thick bark from very old Arjuna trees administering it as instructed above in diseases of the heart, whether functional or organic and note the result; and then report the result through the medium of this Journal for the benefit of the suffering humanity.

There are several preparations of Arjuna amongst which may be noted *Nagarjunabhra*, *Parthyadyarista* and *Arjuna ghrita*. These are largely used in the treatment of heart diseases, but my personal experience is that the fresh bark administered as above suits all cases and proves effective within a short time. Along with this preparation, *Makaradhwaja*, *mica* (not less than 500 touch) or gold *Bhashma* may be prescribed with benefit.

MEDICAL JURISPRUDENCE IN AYURVEDA

BY

DEVAPRASAD SANYAL, L M S.

*Lecturer on Medical Jurisprudence at the Ayurvedic College.**(Continued from page 300.)*

III. 27 Feb. 25,

I have already said that a system of legal medicine existed in ancient India and medical knowledge was frequently resorted to for legal purposes. The system of legal medicine which existed in those days was rather crude in comparison with the present system of medical jurisprudence; but it must be noted that several centuries before Christ the sages of ancient India understood the importance of the subject and tried to apply medical knowledge to legal principles—in aid of the administration of justice.

In the Arthashastra of Kautilya, ascribed to the fourth century B.C., we have undoubted evidence that there was arrangement for post-mortem examination in cases of suspicious and sudden death. Thus in the Arthashastra (Chapter VII, Book IV) we have the following text :—

आशुमृतक परोक्ता । (Post-mortem examination—medico-legal.)

“तैलाभ्यक्तमाशुमृतकं परोक्तेत् ॥
 निष्कर्ण्मूत्रपुरीषं बातपूर्णकोष्ठत्वकं शूनपादपाणिमुर्मौलिताच्च
 सव्यञ्जनकरणं पौडुननिरुद्धोच्छासहतं विद्यात् ॥
 तसेच सङ्कुचितवाहसक्थिमुद्भ्यनहतं विद्यात् ॥
 शूलपाणि पादोटरमपगताच्चमुड्जत नाभिमवरोपितं विद्यात् ॥
 निस्त्वयस्तदाच्च सन्दृष्टजिह्वासधातादरमुदकहतं विद्यात्
 गोणितानुभित्तं भग्नभिन्नगात्रं काष्ठेरश्मिभिर्वा हतं विद्यात् ॥
 सम्भग्नस्फुटितंगात्रं विच्छिप्तं विद्यात् ॥
 श्यावपाणिपाददन्तनखं शिथिलमांसरोमचर्माणं फेनोपदिग्धं
 मुखं विषहतं विद्यात् ॥

तमेव सशोणितदंशं सर्पकौटहतं विद्यात् ॥
 विक्षिप्तवस्त्रगात्रमतिवांताविरक्तं मदनयोगहतं विद्यात् ॥
 अतोऽन्यतमेन कारणेन हतं हत्वा वा दन्तभयादुद्भव निकृत्त-
 करणं विद्यात् ॥
 विषहतस्य भोजनशोषं पयोभि परोक्षेत ।
 हृदयादुद्वाग्नौ प्रक्षिप्तं चिट्ठचिट्ठायदिन्द्रधनुर्वर्णं वा विषयुक्तं
 विद्यात् ॥
 दग्धस्य हृदयमद्गधं दृष्टुं वा तस्य परिचारकजनं वा दन्त-
 पारुषादतिमागेत ।
 दुःखोपहतमन्यप्रसक्तं वा स्त्रोजनं दायनिवृत्तिस्त्रोजनाभि-
 मन्तारं वा वस्त्रम् । तदेव इतोऽन्यस्य परोक्षेत ॥
 स्वयमुद्भवस्य वा विप्रकारमयुक्तं मागेत ॥
 सर्वेषां स्त्रीदायादगदोषः, कर्मस्पर्धा प्रतिपक्षद्वेषः
 परणसंस्थासमवायो वा विवाद पदानामन्यतमहा रोषस्थानं ;
 रोषनिमित्ता घातः ॥

EXAMINATION OF SUDDEN DEATH

“ In cases of sudden death, the corpse shall be smeared over with oil and examined.

“ Any person whose corpse is tainted with mucus and urine, with organs inflated with wind, with hands and legs swollen, with eyes open, and with neck marked with ligatures may be regarded as having been killed by suffocation and suppression of breathing.

“ Any person with contracted arms and thighs may be regarded as having been killed by hanging.

“ Any dead person with swollen hands, legs, and belly, with sunken eyes and inflated navel may be regarded as having been killed by hanging.

“ Any dead person with stiffened rectum and eyes, with tongue bitten between the teeth, and with belly swollen, may be considered as having been killed by drowning.

“ Any dead person, wetted with blood and with limbs wounded and broken may be regarded as having been killed with sticks or ropes.

" Any dead person with fractures and broken limbs, may be regarded as having been thrown down.

" Any dead person with dark-coloured hands, legs, teeth and nails, with loose skin, hairs fallen, flesh reduced, and with face bedaubed with foam and saliva, may be regarded as having been poisoned.

" Any dead person of similar description with marks of a bleeding bite, may be considered as having been bitten by serpents and other poisonous creatures.

" Any dead person, with body spread and dress thrown out after excessive vomiting and purging, may be considered as having been killed by the administration of the juice of the *madana* plant.

" Death due to any of the above causes is, sometimes under the fear of punishment, made to appear as having been brought about by voluntary hanging, by causing marks of ligature round the neck.

" In death due to poison, the undigested portion of meal may be examined in milk. Or the same extracted from the belly and thrown on fire may, if it makes 'chitchita' sound and assumes the rainbow colour, be declared as poisoned.

" Or when the belly (*Hridayam*) remains unburnt, although the rest of the body is reduced to ashes, the dead man's servants may be examined as to any violent and cruel treatments they may have received at the hands of the dead. Similarly such of the dead man's relatives as a person of miserable life, a woman with affections placed elsewhere or a relative defending some woman that has been deprived of her inheritance by the dead man may also be examined.

" The same kind of examination shall be conducted concerning the hanging of the body of an already dead man.

" Causes such as past evils or harm done to others by a dead man, shall be inquired into regarding any death due to voluntary hanging.

" All kinds of sudden death, centre round one or the other of the following causes :—

" Offence to women or kinsmen, claiming inheritance, professional competition, hatred against rivals, commerce, guilds

and any one of the legal disputes, is the cause of anger; anger is the cause of death."

Kautilya's Arthashastra—Translation by R. Shamasastri, B.A., M.R.A.S., Librarian, Government Oriental Library, Mysore.

The Post mortem examination was gradually made soon after death smearing the dead body with oil. They also used to preserve dead bodies in oil—sometimes for purposes of cremation and sometimes for purposes of post mortem examination if it were not possible to do it soon after death. We have in the Ramayana :—

“तैलद्रोण्यां तदामात्यः संवेष्य जगतौपतिम् ।

राज्ञः सर्वाण्यथादिष्टाशक्रुः कर्म्माण्यनन्तरम् ॥”

(रामायणम् ; अयोध्याकाण्डम् ; ६६३मः सर्गः)

“ Then the ministers, as directed, (by wise sages such as Vashista and others) placed the king in a tub full of oil and afterwards they observed other necessary ceremonies.”

(To be continued).

TO OUR SUBSCRIBERS.

The current issue completes the first year of the life of the *Journal of Ayurveda*, and we would request our constituents to remit early the amount of their advance annual subscription for the next year.

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A. C BISHARAD,
2, Horokumar Tagore Sqr., Calcutta.

1925.]

ASTHMA IN AYURVEDA

ASHUTOSH ROY L. M. S., HAZARIBAGH.

(Continued from our last issue).

—o—

I. OTHER PREPARATIONS ALLIED TO THE ABOVE CONTAINING
BOTH VEGETABLE AND INORGANIC DRUGS.

1 Basanta Tilak Rasa.

R/.

Musk and Camphor—cardiac stimulant

Gold—nervine

Iron and Mica—haemotenic

Makaraddhaj—alterative

Tin—diuretic

Burnt Pearl and Coral—stimulant antacid

with juice of Gokhur (*Tribulus Terrestris*)—diuretic

Sugarcane juice—diuretic

Vasak—expectorant

In dyspepsia of Phthisis and other grave conditions in weak subject.

The above with Iron pyrites and Silver is known as Brihat Basanta Tilak Rasa.

Note :—Regarding the administration of Musk and Camphor, it may be noted that Camphor is to be given alone and Musk avoided if the patients' Vayu becomes "rukshma" (too much irritated—"arthritic diathesis" and secretions are less in quantity); on the other hand in condition of exudative diathesis, e.g., severe coryza, musk is always to be preferred to camphor and may be given in combination.

2. Brihat kaphaketu.

R/

Gold

Pearl and Coral burnt.

Mica.

Makaraddhaj.

Make into pill with mother's milk.

This is a simpler prescription in Swasa of children with irregular pulse and cold extremities.

3. *Sleshma Sundar Rasa.*

R/

- Gold and Silver.
- Iron and Pyrites.
- Mercury and Sulphur.
- Burnt Pearl.
- Makaraddhaj.
- Trikatu.

4. *Maha-Lakshmibilas.*

R/

- Mercury and Sulphur.
 - Iron and Mica.
 - Tin
 - Harital (arsenic)
 - Copper.
 - Aconite.
 - Camphor.
 - Nutmeg and Mace (carminative)
- with pulv. seed of Bridha darak (*Gmelina asiatica*) }
of Dhatura } cerebral
rub with Betel-leaf juice—good in Vayu-Kapha. stimulant.

5. *Tarunanananda Rasa.*

It contains :—

- Alterative—Hg and S as black sulphide of mercury or kajjali
- Bhuikumra (*Ipomea Digitata*)
- Specific to check vayu—Brihat Panchamul.
- Astringent—Barella (*S. cordifolia*), Amloki (*E. myrabolana*)
- Diaphoretic—mutha (*C. Rotundus*)
- Diuretic—Satamuli (*A. Sarmentosus*)
- Expectorant—Brihati (*S. Indicum*) and Vasak, Talispatra.
- Antibilious—Punarnava.
- Cardiac stimulant—Camphor.
- Carminative—nutmeg and mace, cardamom and cloves.
- Antispasmodic—Jatamansi (valerian I.)
- Good in children as the name indicates.

ALLIED PREPARATIONS-- FOOD IN SWASA WITH FEVER.

I. *Kaphaketu Rasa.*

R/

- Burnt Borax and conch-shell (antacid)
- Aconite—antifebrile.
- L. Pepper and juice of ginger—carminative.

2. *Mrityunjoy Rasa.*

R/

Mercury and Sulphur.

Burnt Borax.

Long and black pepper.

Aconite.

3. *Chandramrita Rasa.*

It contains :—

Carminatives—Trikatu, Piper chava, Black pepper,
Coriander, Carraway.

Laxative—Triphala.

Digestive—Rock salt.

Antacid—Burnt Borax.

rubbed with juice of :—

Expectorant—Bamanhati, Kantikari

Diaphoretic—Mutha

and Goat's milk—good in Kapha disease or exudative (e. g.
Phthisis, Diarrhoea).4. *Brihat Chandramrita Rasa.*

R/

Mercury and Sulphur

Mica and Iron

Camphor

Copper

Gold

with the vegetable drugs :—

Nervine stimulant—Bridhadarak seed (*G. Asiatica*)

Carminative—Carraway, Cloves, long Pepper.

Alterative—Bhuikumra (*I. digitata*)Diuretic—Satamuli (*A. Sermentosus*)Antibilious—Kulakhara (*Hygrophile asiatica*)Astringent—Barella (*S. cordifolia*)Cerebral stimulant—Datura (*D. stramonium*)

Fragrant antiseptic—Dhuna (Gum resin)

add honey

5. *Surjyabarta Rasa.*

R/

Mercury and Sulphur.

rub with juice of Ghritakumari (*Aloe Indica*)—laxative.

add copper

Debdaru (*Pinus Deodaru*)—antiseptic expectorant.

Trikatu—carminative.

Root of Rakhalsasa (*citrubes colocynthus*)—Laxative, sugar, good if associated with constipation.

6. *Brihat Kasturi Bhairab.*

R/

Gold and Silver.

Musk and camphor.

Copper.

Mica.

Arsenic.

and the following vegetables :—

Astringent—Dhai Phul (*woodfolia floribunda*), Aknadi (*cissampelos Pareira*), E. myrabolan.

Stimulant—Dried seed of sim (*Conavalia Eusiformis*) or seed of Alkusi (*mucuna Pruriens*) and Bata (*Pavonia odorettia*).

Anthelmintic—Viranga (*Embelia Ribes*).

Diaphoretic—Mutha (*C. Rotundus*).

Carminative—ginger.

In dyspnœa with fever, collapse, delirium, etc.

7. *Maharaj B ti.*

R/

Mercury and Sulphur

Mica and Iron

Tin.

Gold or Iron Pyrites.

Copper or Silver (if diarrhoea)

Camphor or Musk (if much corryza) and the following vegetables.

Nervine seed of Bridhadarak (*G. Asiatica*)

Cerebral stimulant—seed of Datura (*D stramonium*)

Dried seed of Sim (*C. Ensiformis*)

Diuretic—Satamuli (*A. Sarmentosunus*)

Carminative—Cloves, Nutmeg and Mace,

Astringent—Barella (*S. cordifolia*)

Goruk chakulia (*S. spinosa*)

Antibilious—Kulakhara (*H. Spinoso*)

Alterative—Bhuikumra (*I. Digitata*)

Talmuli (*Curculigo orderides*).

8. *Bijaya Bati.*

R/

Mercury and Sulphur, Iron and Mica, Copper
and the following vegetables :—

Antifebrile—Aconite.

Anthelmintic—Viranga (E. Ribes).

Carminative—Rumka (P. aurantiacum), Cardamom root of
L. Pepper, Trikatu, Chita.

Laxative—Triphala croton

Fragrant—Nageswar (mesua Fera)

Diaphoretic—mutha (C. Rotundus)

K. ALLIED PREPARATIONS CONTAINING IRON.

1. *Jvarasani Louha.*

R

Mercury and Sulphur—alterative and antiseptic

Iron and Mica—Hæmatenic

Rock salt—Digestive

Aconite—Antifebrile

Copper—Emetic and Laxative

Pulv. Black pepper—Carminative

Nishinda (vitex Negundo)—Emetic

In Vayu-Kapha variety of "swasa" with fever and much
Phlegm in chest.

2. *Pippaladya Lauha*

Iron—Hæmatenic

L. pepper—Carminative

E. myrobalan—Laxative

Dried ginger—Carminative

Liquorice—Laxative

Inside of seed of plum—Laxative

Pushkar (root)—Aromatic stimulant

In Vayu-Pitta Asthma wth constipation.

3. *Mahaswaswari Lauha*

Iron and Mica—hæmatenic

Triphala

Liquorice

Dried Raisins

Inside of seed of plum

Long pepper

Cardamom

}

... laxative

}

... carminative

Bamboo manna	}	... expectorant
Talispatra		
Viranga—anthelmintic		
Kur—aromatic stimulant		
Nageswar—fragrant		
Sugar	}	... food
and		
Honey		

L. ALLIED PREPARATION CONTAINING MICA.

1. *Jvarari Abhra.*

R/.

Mica
 Copper
 Mercury and Sulphur
 Aconite
 Dhatura seeds
 Trikatu

In Vayu-Pitta Asthma with fever.

2. *Dameswar Abhra.*

It consists of—

Haematenic—Mica
 Carminative—P. Chava, P. Zeylanica, P. Longum.
 Expectorant—Bamanhati, Vasak
 Bitter—Ghora Neem (melia azadrach)
 Cerebral stimulant—Dhatura
 Diuretic antifebrile—Gulancha
 Laxative—Kalkasunda (cassia saphora)

In Vayu-Kapha Asthma.

3. *Kanchanabhra.*

Gold and Silver

Rasasindura (Sulphide of mercury—red)
 Pearl and Coral burnt—antacid, stimulant
 Iron and Mica—Haematenic
 Musk—Stimulant
 Realgar (arsenic)—Do. antifebrile
 E. Myrobalan—Laxative

In dyspnœa of Phthisis.

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4. *Brihat Kanchanabhra.*

It contains gold and silver, copper, tin, iron and mica, pearl and coral, Rasasindur, Baikranta, musk, cloves and mace.

Elabaluk (anthelmintic)

Rub with the juice of

Kessur—(kyphus kysoor)—sedative

Ghritakumari (Aloes) laxative

Goat's milk

in dyspnoea of Phthisis and Prameha.

5. *Kalyansundar Abhra.*

It contains besides mica the following vegetable drugs :—

Laxative—Juice of Bael-leaf

Astringent—Amlaki (E. myrobalan)

Barella (S. cordifolia)

Sona (oroxybem Indica)

Diuretic—Satamuli (A. Sarmentosus)

Sugarcane juice

Parul (stereospermum suavas lens)

Diaphoretic—mutha (C. Rotundus)

Bitter—Ganiari (Pruna spinosa)

Expectorant—Til (sesamun Indicum)

Vasak and Kantikari

Fragrant antiseptic—Bala (Pavonia odorata)

M. Medicated molasses or sugar comparable to preparations of malt of West.

1. *Bhargigur.*

Dasamul—Check Vayu-Kapha.

Bamanhati—Expectorant

E. Myrobalan—Astringent

Trikatu

Cinnamon

Cardamom

Cloves

}

Carminative

Jabakshar—Laxative

Basis—Old molasses and honey.

2. *Bhargi Sarkara.*

Root of Bamanhati, Vasak, Kantikari—Expectorant.

Meat of Bat—Checks Vayu-Kapha

Guratwak (C. Zeylanica)

Trikatu—Cinnamon—Carminative

Bach (*acorus catanus*)

Nageswar—(*Mesua Ferrá*) fragrant, gastric sedative

Triphala—Laxative

Mutha—Diaphoretic

Gokhur—Diuretic

Talispatra—Expectorant

Basis—Sugar.

M. Medicated ghee (animal fat) comparable to preparations of cod liver oil in the West.

1. *Dasamulchatpatak Ghrita.*

R/

Dasamul Check Vayu-Kapha

Chatpatak—A combination of six specific carminatives

Ghee (clarified butter from cow's milk)

2. *Chhagaladya Ghrita* (comparable to malted cod liver.)

R/

Ghee

Goat's meat

Sugar

Barela (*S. cordifolia*)

Goruk Chakulia (*S. Spinosa*)—astringent

Aswagandha—Nervine

Hemidesmis—alterative

Gulancha—Diuretic

Bhuinkumra (*I. Digitata*)—alterative

Kakoli

Khira-kakoli } —soothing roots from Himalayan region.

3. *Hingsradya Ghrita.*

Ghee.

Cow's milk.

Hinsra (Kalkora) [*Cataria sapiria*]—antiseptic, antiperiodic.

Natakaranj (*Guilandina Bonduceli*)— do. do.

Triphala—laxative.

Trikatu—carminative.

Chita (*P. Zeylanica*)—

do.

4. *Tejobaladya Ghrita.*

Ghee—Sathi (*C. Zeodoria*)—food.

Carminative—*P. Chava*, *P. Longum*, *P. Zeylanica*.

- Bach (A. calamus), Sonchal salt, Rock salt.
 Astringent—E. myrobalan, Pulv. Bael.
 Stimulant—Kur and Pushkar.
 Expectorant—Katki (Helebore - P. Kurrooa), Talispatra.
 Fragrant—Katrui (Andropogon Schoemauthes)
 Laxative, anthelmentic,—Palas (Butea frondosa)
 Bitter—Bhui-amla (P. Neruli)
 Check Pitta—Jibanti (C. orientalis)

5. Sringigur Ghrita.

It contains—

- Expectorant—Kantikari (S. Xanthocarpum)
 Brihati (S. Indicum)
 Basak (A. vesica)
 Bamanhati (C. Siphonanthus)
 Kakrasringhi (R. Suceedania)
 Bansalochan (Bamboo manna)
 Talispatra (Pinus W.)
 Diuretic—Gulancha (T. cordifolia)
 Satamuli (A. Sarmuntosus)
 Gokhur (T. Terrestris)
 Parul (S. Suaveolus)
 Carminative—L. Pepper, nutmeg, cloves, tejpatra, cinnamon,
 cardamom ; dried ginger.
 Stimulant—Kur (A. auriculata)
 Food as basis—old molasses, ghee, cow's milk and honey.
 This is also comparable to malt codliver.

6. Chaybana Prasha —This is too well-known as a medicated food.
 It contains—ghee, sugarcandy, oil sesamum, honey—Nitrogenous pulses mug and mashani (P. mungo and Roxburghi), starch (Sathi)

Besides vegetable drugs—

- Dasamul—checks Vayu-Kapha.
 Astringent—(stimulate sympathetic)—Barella, Blue lotus,
 E. myrobalan.
 Carminative—L. Pepper, cardamom, Tejpatra.
 Expectorant—Kakrasringhi, Vasak, Katki.
 Fragrant—Nageswar, Aguru.
 Bitter—Bhui-amla (P. Neruli)
 Kakjangha (Leea Hirta)
 Checks pitta—Jibanti, Punarnava.

Nervine—Aswagandha, Kur.

Laxative—C. myrobalan.

Diuretic—Gulancha, Red Sandal-wood.

Diaphoretic—Mutha.

Alterative—Bhui-kumra (I. Digitata).

Hence it is a tonic in so many conditions.

(O) *Medicated Wines.*

1. *Kanakasava* contains—

Cerebral stimulant—Datura.

Expectorant—Vasak, Bamanhati, Talispatra.

Laxative—Liquorice.

Carminative—L. Pepper.

Fragrant—Nageswar.

Astringent—Dhai phul (W. Floribunda), grape, sugar, honey.
Fermented.

2. *Draksharishta.*

It contains raisins, old molasses, 'Bit' salt, B. and L. Pepper.

Carminatives—cinnamon, cardamom, Tejpatra.

Fragrant—Nageswar, Priyangu.

(P) *Medicated oil to apply to chest.*

1. *Vasa Chandanadi Taila.*

2. *Brihat Chandanadi Taila.*

The above prescriptions do not exhaust the list accumulated in Ayurvedic books in the course of centuries, but we have given enough which will meet all conditions of Primary and Secondary Swasa with complications.

We shall now try to study the principles involved :—

First of all we must remember that in acute and simple cases, vegetable drugs are used. The more complicated the case, the greater the combinations. Thus in place of one expectorant or one carminative, a number of them are used to make the prescription lengthy. This is, our critics may say, due to absence of accurate knowledge of individual drugs but is really a combination of simpler drugs to act on different parts of the same system in different times. Instances are not rare of such shot-gun prescriptions in modern pharmacopœia. The best example is Worberg's Tincture recently expunged from the modern pharmacopœia. The allopathic prescriptions are getting simpler at the present time due to the effect

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(uncresine) of homœopathy and partly to more accurate knowledge of individual drugs. But the art of combination is dying out or left to the ingenuity of Pharmacist which is not a desirable state of things.

Secondly in chronic cases there is "dhatu" (tissue) waste and such cases are treated with dhatus (metals) combined with non-metals and vegetables. The study of Dhatus (metallic drugs) start with the Tantric period and based on advance in knowledge of chemistry.

Regarding the dhatus, we have the highest metals (gold and silver) to correct derangement of the highest tissues like the nervous tissue, we have the scale like Tin which act on the urinary system (the lowest in the trunk) correcting any kind of Prameha (urinary abnormalities).

Turning to the treatment of various kinds of *Swasa* we have as in allopathy the various smokes, the various Linctus etc., to relieve the throat. The carminatives of the group of the various Pipers e.g.,

Pippali—L. Pepper,

Marich—B Pepper,

Bach—Acorus calamus,

Dried Ginger, etc.

are good for throat and we have various combinations like Trikatu, Panchakol, Chatpalak, etc., variously taken as powder mixed with decoction, medicated ghrita, etc.

They are largely used in combination with other drugs.

In Vayu-Kapha asthma of the chest which is a primary or secondary disease we have various antispasmodics and expectorants with suitable adjuvant medicine according as the heart, the brain or other organs are involved. It is the rule to give expectorants with carminatives.

In Vayu-Pitta Asthma of the chest where there is little secretion or expectoration and which is reflex from the abdomen or other parts of the body (e.g., liver, stomach, intestines) expectorants are not given in the first stage, but carminatives, laxatives, with specific combinations for asthma are given.

There is one point to note in the principle of the chest disease in allopathy from Ayurveda. In chest diseases in the congestive stage with no expectoration we prescribe Iodides with expectorants with the idea to loosen the cough and

then get it out of the system. The congestion of the lungs is followed by secretion and the time of cure is prolonged.

In Ayurveda in the stage of congestion, no attempt is made to relieve the congestion by promoting expectoration, but attempt is made to cut it short, not allowing it to proceed to the stage of secretion. At this stage milk and sweats are not given as food for these make the congestive stage proceed to the secretive stage.

This principle of treatment has been followed by the writer with marked success in the treatment of Broncho Pneumonia in children. Instead of prescribing Iodide and stimulant expectorants, he uses small doses of Iron which reduces the congestion and cuts short the disease at the outset. It has rarely failed him, of course once expectoration has begun, expectorants are given in both Ayurveda and Allopathy.

In vayu-pitta irritation of the intestine marked by stoppage of secretion and excretions, the treatment is directed to loosen the secretions and promote their flow, Diuretics, Laxatives, etc. are given.

In Dyspeptic asthma—carminatives are given.

In vayu-kapha condition of the intestine where there is increased and exaggerated secretion, astringents are given not only to check the flux but to stimulate the sympathetic and promote tone of the intestinal organs.

In vagotonics—astringents are given with Nervines. In sympatho-tonics nervine sedatives, antispasmodics, etc., are given.

Besides specific treatment, symptomatic treatment is done to check individual symptoms, e.g., anthelmintics for worm.

In weak patients medicated wines, medicated foods analogous to malt and codliver are given. In anaemic subjects haematenics are given variously combined.

Medicated oils are rubbed on the chest more for soothing effect than counter-irritation.

Calcium when indicated is given in various forms as Calcium Carbonate (Lime) as burnt pearl, coral, conchshell, bivalve shell, etc. It will be interesting to analyse them to find out what other ingredients are admixed with calcium in such medicines.

Besides specific combinations for swasa, we find various specific combinations, e.g.,

Brihat Panchamul—check vagotonic or excite sympathetic vayu.

Svalpa Panchamul—check kapha.

Dasamul—check vagotonic condition.

Triphala—Laxative combination.

Trikatu—Carminative combination.

In conclusion it may be said that the various combinations in different prescription if properly studied, will give us the key to understand not only the principles of Ayurvedic treatment, but will enable any Ayurvedic practitioner to make his own combination and prescribe like any allopath. The charge that Ayurvedic practitioners only use patent medicines will then automatically disappear, if the practice of prescribing like allopaths is followed.

It is unfortunate that the trend of modern Allopathic practice is to use more patent medicines, depending on their supply of such drugs combination from pharmaceutical chemists. Hence European doctors often remark that in spite of the very rich Indian pharmacopœia, Indian practitioners resort more to the newest and latest patent or proprietary preparations manufactured in Europe or America. Allopathy is making the same mistakes as Kavirajes are doing, viz., the use of proprietary patents to mystify their patients.

The practice of self-control, residence in a room protected from undue exposure, sleeping only at night, tepid water and moderate physical exercise always conduce to the better preservation of health.

An intelligent physician, considering the nature of the disease, the strength and temperament of the patient, and the state of his digestion as well as the seat of the affection, the physical features of the country and the then prevailing season of the year, should prescribe a diet which he thinks the most proper and suitable to the requirements of the case. Since the conditions infinitely vary in the different types of diseases and even the same conditions do not obtain in one and the same type, physicians generally prescribe a diet of their own selection, determined with regard to its general effect on health, in preference to one that has been laid down in books of medicine.

PURGATIVES IN AYURVEDA

BY

KAMALA KANTA SHARMA.

(Continued from May 1925 issue.)

—o—

The Three Myrobalans.

हरितकी (Chebulic Myrobalan) acts directly in allaying *Vayu* irritation and as a rejuvenator and a powerful invigorating agent of the organs of sense on which it exerts a soothing effect. It is a destroyer of all diseases, specially of those following the use of sweet or richly cooked dishes.

आमलकी (Embelic Myrobalans) exerts a cooling and refrigerent influence and is a destroyer of *Pittam*, *Kapham*, and *Medam* (fat).

चिभितकी (Belleric Myrobalan) is mild in action and is a subduer of *Kapham* and *Pittam*.

These three fruits together are called the three myrobalans. The group is acid-astringent in taste and is slightly bitter and sweet.

Powdered *Trifala* one part taken regularly with clarified butter 3 parts prolongs youth and rejuvenates the system.*

All other fruits of the purgative class may be administered in the way *Haritaki* is prescribed.

But regarding the administration of the fruit known as *Chaturangulam* (*Shondal*—*cassia fistula*), some special precautions should be observed. These fruits should be collected in proper season, and should be kept buried in a bed of sand. After a week take them out, and get them dry under the sun and collect the marrow-like substance obtainable inside the fruits. Then have them pressed in an oil-mill to extricate the essential oil. The oil can also be prepared by boiling the marrow in water and may be used safely as a mild purgative for children up to the 12th year.

Chaturangulam which is called *Aragbadha* or *shondal* is a very harmless mild purgative, and can safely be administered in fever, heart disease, haemoptysis, abdominal tympanites and colic, where *Vayu* and *Pittam* predominate.

**Trifala* :—*Haritaki* $\frac{1}{2}$ tola, *Bibhitaka* $\frac{1}{4}$ tola,
Amlaki $\frac{1}{2}$ tola, The stones are not to be used.

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A Mild purgative

R/

- Pulverised कुट्ट ... (*Alpotaxis auriculata*)
 ,, शुगडी ... (Dry ginger).
 ,, पिंपलौ ... (long pepper)
 ,, सरीच ... (Black pepper).

aa. Taken in castor oil, followed by a drink of hot water acts as a good purgative.

A Purgative for Children, the aged and the Infirm.

Castor oil is recommended to be taken with either the decoction of the three myrobalans, milk or meat juice. This mixture acts as a very mild purgative specially applicable to the weak, anemic, the old, the delicate and those suffering from cachexia, attended with or following sores or ulcers.

Milky Exudations of Plants and Trees used as Purgatives.

Of all such purgatives *Manasho-kshir* or the milky exudation of the *Sudha* plant possesses the most virulent action. Special care should be taken in its administration as when administered by the impudent quack it may kill the patient, while in the hands of an intelligent practitioner it allays many incurable ailments.

Prepare a decoction of the group of drugs known as "*Brihat Panchamula*" (see *Mahat Panchamulam* already detailed), *Brihati* (*solanum Indicum*) and *Kantakari* (*solanum Janthocarpum*) seven parts, and *Sudhakshir* cone part, boil the compound over charcoal fire. When ready, the medicine is administered in 2 tolas doses with either cream of curd, wine or sour rice gruel as already detailed while speaking of *Trivrit* compounds.

Saturate rice in the milky exudation of the *Sudha* plant and prepare a gruel in the usual way, which acts as a ready purgative. A porridge prepared of wheat treated in the above manner with the addition of clarified butter, milk and treacle, possesses purgative properties.

Sudhakshir, sugar and clarified butter mixed together and licked in as a linctus acts as a purgative.

Pulverised round pepper treated in *Sudhakshir* and mixed with a little rock-salt is recommended as a purgative.

Pulv. *Kampillakam* (*Kamalagoori*) saturated with *Sudhakshir* dried and made out into boluses or powders is used as an effective purgative.

A mild purgative for the delicate.

R/

सूखा	...	(a variety of <i>Sudha</i> called origaum valgoris)
शक्किनी	...	(<i>Kalmegha</i>)
दत्ति	...	(<i>Laghu</i> variety of croton root)
विव्रत	...	(<i>Trivrit</i>)
आरगवधमज्जा	...	(<i>Cassia fistula</i> , aa.)

Pulverise and saturate in cow's urine and then soak in *Sudhakshir* for seven consecutive days. Prepare a garland of flower or a piece of cloth strewn over with this powder. The use of either of these by a delicate person induces a mild movement of the bowels.

An all-round purgative to suit all cases.

R/

Pulv. Trivit	...	...	... 1½ tolas.
„ Trifala	...	...	... 1½ „
„ Baberang seeds	...	...	... ½ „
„ Round pepper	...	...	... ½ „
„ Carbonate of Potash	...	...	... ½ „

Mix well and prepare a *Modaka* or confection either with sugar and clarified butter or treacle and administer in required doses. This purgative does not necessitate any strict observance of diet and mode of living. It is very effective in allaying abdominal cysts, pelvic cellulitis, disinclination to food, intestinal worms and many other diseases arising out of the deranged condition of *Kapham* and *Vayu*.

All the preparations of purgative remedies from roots, barks, fruits and milky exudations of plants, as detailed above, should be carefully prescribed by the intelligent physician after a patient observation of each individual case with reference to the nature of the affection and its specific indications.

The intelligent physician mastering these details should prescribe and administer purgative drugs through the medium of clarified butter, sesamum oil, milk, wine, cow's urine, meat juice and other articles of dietary, according to the nature of the diseases and the condition and mental attitude of the patient.

The six kinds of purgatives detailed above are :—(1) milky exudation, (2) expressed juices, (3) pastes, (4) decoctions, (5) cold infusions and (6) powders of the medicinal drugs or herbs. Regarding their potency, the first is the strongest, while the following ones are gradually weaker.

Ref.—*Sushruta Samhita, Sutrasthanam, Chap. XLIV.*

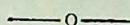
A BRIEF HISTORY AND OUTLINES OF AYURVEDA

BY

MAHAMAIOPADHYAYA KAVIRAJ

GANANATH SEN, SARASWATI, M. A., L. M. S.

(Continued from P. 112.)



So much for the Vedic period. Considering the vast fields covered by the Vedas, what we have been able to summarise above is only a birds'-eye view. Any one may find out hundreds of other informations from this fountain of world literature.

The legends connected with the origin and progress of Ayurveda during the Vedic period are interesting. They are briefly stated in the current works (e.g., Charaka, Sushruta) as follows. Brahma, the Creator of the universe, evolved the science of Ayurveda by meditation and taught Prajapati. He imparted it to the twin-gods Ashwins, who became the divine physicians. From them, the science descended to Indra, "the learned King of the gods". He instructed many Rishi pupils who approached him out of compassion to humanity. Of these—two pupils—the Sage Bharadwaj or Atreya and the Sage-King Divodas Dhanwantari of Benares became prominent instructors. The former started "the Atreya School" or the School of Physicians. The latter, the Ascetic King Divodas Dhanwantari (who is said to have been the incarnation of the Physician god Dhanwantari, originated the "Dhanwantari School" or the School of Surgeons. This brings us from the legendary to the palpable period of Sage Authors.

II THE PERIOD OF SAGE AUTHORS & ORIGINAL RESEARCH.

Of the two schools mentioned above the great exponents of the former school or the School of Physicians were the six disciples of Atreya. These were by name—Agnivesha, Bhela, Jatukarna, Parashara, Hareeta and Ksharapani—each of whom wrote a large comprehensive work known after his name on the Practice of Medicine. The exponents of the other School or the School of Surgeons were the disciples of Dhanwantari, the Ascetic King of Benares. These were among others, Sushruta Bhoja, Aupadhenava, Aurabhra, Vaitaran, Paushkalavata, Gopura-Rakshita, etc., each of whom wrote a compreh-

hensive work on the Practice of Surgery and Midwifery. Some of these works are still available in a revised form and references from these and many other ancient works are still found to occur extensively in later compilations. All these authors may be said to have done real original work in the field of Medicine and Surgery.

As early as this or perhaps a little later, Ayurvedic practice became divided into eight specialised subjects :—

- (1) *Shalya* or Surgery and Midwifery (together).
- (2) *Shálakya* or Surgery of the Eye, Ear, Nose and Throat.
- (3) *Kayachikitsá* or Practice of Medicine.
- (4) *Bhutavidyá* or Treatment of mental diseases (including the so-called obsessions).
- (5) *Kumara-bhritya* or Hygiene and Treatment of children.
- (6) *Agada-tantra* or Diagnosis and Treatment of Poisons,— vegetable, mineral and animal, including Snake-bite, Rabies, etc.
- (7) *Rasayana* or Hygiene and Preventive Medicine for the attainment of sound health, Longevity and Rejuvenation in old age.
- (8) *Vajeekarana Tantra* or Sexual Science including Sexual Hygiene and Treatment of Sexual diseases.

From the records existing at the present day, it is clear that numerous original works on each of these specialised subjects existed over 700 years ago. They have been quoted from extensively by trustworthy commentators less than thousand years old and some of them still exist either in manuscript or in revised and printed form. Some are being unearthed even now (e. g., Bhela Samhita just published by the Calcutta University). A classified list of about fifty of these works is given below. As a general all-India search for manuscripts has not been made yet, it cannot be said that they are all lost. One point is particularly noteworthy in this connection. Numerous discussions including searching—even sceptic—questions on the properties of drugs and lines of treatment are yet to be found in some of the existing works like Charaka-Samhita showing that the sages of old did not sacrifice reason at the altar of divine inspiration nor stuck to any dogmas when such were unsupported by experience.

List of the Ayurvedic Works by the Ancient Sages
(2nd period).

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Many are of opinion that the book entitled "*Anjana Nidanam*" was compiled by Agnibesha. We do not find a single quotation from this book in the commentaries of Chakrapani, Bijoy Rakshit, Shrikanta Datta and others and the language does not quite follow the ancient Sanskrit style. It is probable therefore that the book was compiled by some other author of the same name at a later date. We cannot but admit however that its author knew his subject well and handled in a terse but masterly manner the pathology of diseases so as to make it intelligible even to the beginners.

2. *Bhela-Samhita*—This is the second Samhita of the Atreya School of Medicine and quotations from it are found in the commentaries of Bejoya Rakshit, Shivadas and other annotators. This work was found in incomplete condition in the famous Library of Tanjore. The writer had the good-fortune of inspecting the original at Tanjore. The work has since been published in mutilated condition by the Calcutta University.

Many affirm that "Bhela-Samhita" and "Bhaluki-Samhita" are but two different designations of the same work. This view cannot be accepted as sound, as Dallanacharyaya mentions both of them in the same sentence in his commentary on Sushruta. We believe Bhaluki-Samhita mainly deals with surgery and the reader is referred to the surgical section for further details.

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THE JOURNAL OF AYURVEDA

Vol. II.

July, 1925.

[No. 1

The Late Mr. C R. Das.

India weeps to-day over the death of her truest son, Chittaranjan, who passed away suddenly at Darjeeling where he was staying for a change. He loved India with a deep affection and devoted himself whole-heartedly to her service and died in harness. From a princely state he chose the poverty of a *Sannyasi* for the sake of his mother-land and its people. No penygerics are too high for what he did and how he suffered for the amelioration of the condition of his fellow-brothers. His activities were not limited to politics only but were many-sided. He was convinced that political emancipation included economic freedom in the many-sided necessities of a nation. With this faith writ large on his heart he was always in the forefront of every movement in which the vital interests of the nation were concerned.

Thus we found him actually devoting his valuable time to the up-lift of Ayurveda—the indigenous system of Medicine of his country which he cherished as a valued heritage. With this object in view he whole-heartedly supported the scheme of amalgamation of the three existing Ayurvedic Institutions and through the Calcutta Corporation he tried his level best to secure the foundation of an all-round college, the nucleus of a Central University of Ayurvedic learning. We are pretty sure that had he been spared for a few years more, he would have, with the magnetic influence of his towering personality, succeeded in bringing about the amalgamation. But as it was not to be, he was taken away in the prime of life to the misfortune of the national system of medicine.

We, the devotees of the great sage Dhanwantari, are above all parties. We have consecrated ourselves to the service of humanity. So we must worship the hero in man and as such we pay our hearty homage to the great departed, who truly lives in death.

In the same breath we offer our heart-felt condolence to Mrs. Das, Sriman Chiraranjan and his sisters, who we doubt not will find at least some comfort and solace in the spontaneous homage that a nation in grief pays to the memory of the great departed.

THE YEAR OUT.

—:o:—

By God's grace and through the kind co-operation of our contributors and readers, we have completed a year's existence. We started the Journal with great diffidence ; we spared no pains to make it interesting and instructive ; and we have been rewarded with an appreciation which is truly beyond our expectation. For this, we are sincerely grateful to our patrons. And once more we appeal to them to continue their support in our arduous task.

In reviewing the year we have rung out, we look back with a sense of satisfaction. The starting of the Government School of Indian Medicine in Madras, the foundation-laying of the Ashtanga Ayurveda Vidyalaya by Mahatma Gandhi in Calcutta and the steady progress of that institution, the approaching completion of the Ayurvedic College, Hurdwar, the completion of the College and Hospital buildings of the Hindu University are all memorable events of the year which mark the onward march of Ayurveda, various detracting factors notwithstanding. Whilst the Ayurvedic and Tibbi College of Delhi does not seem to have made much headway, the D.A.V. College of Lahore and the Gurukul University of Kangri (Punjab) have advanced the cause of Ayurveda by reforming the courses of study up to the requirements of the present day and by completing arrangements to open large Ayurvedic indoor hospitals in their respective areas.

The fifteenth session of the All-India Ayurvedic Conference held its sittings this year at Hurdwar in the extensive grounds of the Rishikula Ayurvedic College. The transition of the seat of the Conference from Ceylon, where the previous Conference had been held, to the foot of the Himalayas showed once more how great the hold of Ayurveda must be on the people of India.

The exhibition of rare drugs—dry and green herbs, minerals, etc., and of forgotten manuscripts and appliances had been a very interesting and instructive feature of the Conference in previous years and this year's show was none the less attractive. Above all, the resolution passed by the Ayurvedists this year to include in their pharmacopœia some useful and quick-acting drugs of the West after a thorough investigation of their properties in their own light—was a novel departure which marked the progressive spirit that is being once more revived in the field of Ayurvedic practice.

We note with much regret that in Calcutta the scheme of amalgamating the Ashtanga Ayurveda Vidyalaya with its new-fledged rival institutions has fallen through. The Special Committee appointed by the Calcutta Corporation toiled hard for six months and drew up a definite scheme formulating their pious wishes. But the Corporation, for reasons best known to the mighty heads that rule there, rode rough-shod over these pious recommendations and sought to appoint a Governing Board which seemed to be more in love with politics than with Science. As the honest workers of the Ashtanga Ayurveda Vidyalaya, the oldest and the biggest institution of its kind, refused to be caught up in the whirl wind of political manouveres, they had but one course before them namely to recede for self-preservation. They were afraid Science and politics would not go well together and naturally found the game too much for them. The last act of the play however has not been played yet and let us hope it will not be a tragedy.

Another important event of the year is the submission by the Ayurvedic Committee of Bengal of its final report for the consideration of the Government of Bengal. The minister of health—the great Sir Surendra Nath Banerjee—who appointed the Committee is no more in office and the fate of the report now

hangs in the balance. The political tug of war being over for the time being, we look for the sympathy of the Government as translated into action. The clarion call of the people of all sections for the resuscitation and development of Ayurveda on up-to-date lines as revealed by the numerous replies to the questionnaire issued by the Committee is unmistakable and the response of the Government is awaited by us in anxious expectation.

The opening of four centres of medical relief in Calcutta under the management of the Ayurveda Sabha—the oldest and most influential Ayurvedic associations of Bengal—is also a noteworthy event of the year, for which the authorities of the Calcutta Corporation deserved the grateful thanks of the poor suffering people of the city. These charitable dispensaries, together with the seven or eight similar but privately conducted institutions that existed already fulfil only a fraction of the need for such relief centres. It therefore behoves the Corporation to increase the number of such centres till each ward of this great city has an Ayurvedic charitable dispensary, conducted or aided by the Corporation.

Whilst on this subject, we cannot pass without noticing the laudable efforts of the various District Boards of Bengal, United Provinces and Behar as well as of the Madras Presidency and Central Province to establish Ayurvedic charitable dispensaries in their respective towns. The work ahead is far too greater than the means in their hands and we expect the benevolent public and the various Government authorities to extend a helping hand to them.

We cannot close this resume without a word against the growth of mushroom Ayurvedic schools—sometimes fondly called "Colleges"—in the various towns of India. We strongly deprecate the attempt to teach Ayurveda as if it were mere literature. Our countrymen should under-

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stand that there is more sin than merit in encouraging the mere Pandits and so-called savants of Ayurveda who advocate and practise such teaching to the exclusion of practical scientific training. According to Sushruta, those who cared not for practical training and the dissection of the human body were not fit persons to practise the healing art and how we wish the old precept of the sages was once more writ large before the public eye.

Finally, we crave the indulgence of our readers for our lapses and shortcomings which, we are afraid, were neither small nor few. If we have displeased and alienated some of our friends by plain-speaking, we have, we hope, added others to the list of our well-wishers in view of the high ideals which have always loomed large before our vision. May the Giver of all good give courage in our mind and strength in our hands to follow up these ideals !

MAHATMA GANDHI vs. AYURVEDA.

In the May issue of this Journal our humorous contributor Mr. Free Lance wrote a few lines on Mahatma Gandhi's speech delivered at the Foundation Ceremony of the Astanga Ayurveda Vidyalaya. As the Mahatma's speech was really ambiguous, our Hony. Editor-in-Chief addressed him a letter which was answered by the Mahatma in his own way in his *Young India*. We thank the Mahatma for his goodness and heartily endorse some of the sentiments expressed in his letter. No doubt, high ideals and researches are the crying need in all medical practice. But if the Mahatma had closely studied Ayurvedic literature and had seen the high ideals followed by many Ayurvedists of Bengal we are sure his answer would not have lacked a mention of the great services that the Ayurvedists of Bengal and Madras had done to the world. The letters are quoted elsewhere in this issue.

Original Articles.

THE NADI SYSTEM IN AYURVEDIC MEDICINE, UPANISHADS AND TANTRIC LITERATURE

BY

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INTRODUCTION.—The study of the Nadi system as revealed in the Ayurvedic works, Upanishads and Tantric literature comprises a difficult and most intricate task, particularly in interpreting the subject matter from the point of view of modern anatomy. There seems to be a great confusion between arteries, veins, nerves and perhaps ducts of glands, and the term "nadi" has been loosely and indiscriminately applied to these different structures by different authorities. The lymphatics were perhaps not recognized, as they are too minute to be observed in gross dissections.

Although the term "nadi" occurs in the Vedas and in many general Ayurvedic works, the term is not used to mean a vessel or a nerve. In Susruta Samhita and Astangahridaya, we do not find the term "nadi" in connection with a vessel or a nerve, but we have the terms "sira," and "dhamani" for vessels and nerves and "srota" for ducts; but there is a great confusion between these terms, especially between "sira" and "dhamani." In the Upanishads and Tantras, the term "nadi" is extensively used and is particularly applied to a nerve, but to some vessels as well. In treatises on sphygmology the term is generally applied to an artery (pulsatile vessel), although some authors still adhere to the original nomenclature. A fairly complete literature on the subject has been cited in the paper on the Nadi-chakra system.

SYNONYMS OF NADI.—A few treatises on Sphygmology, namely, Kalajnane Nadipariksha, Nadipariksha by Atreya, Nadiparijnana-bidhi (II, 18*), Nadipariksha (II, 26, and II, 29) and Nadiparikshamidana, present a passage dealing with the synonyms of nadi.

* These figures refer to the number in the literature on sphygmology (second paper on sphygmology.)

स्नायु नाडी च सा हिंस्रा धमनी धामनौ धरा ।
तन्तुकी जीवितज्ञा च शिरा पर्थ्याय वाचकाः ॥

The terms snayu, nadi, hingsra, dhamani, dhamani, dhara, tantuki, jibitajna and sira are all synonymous, that is, they are all used to mean the same structure. But the terms have been used in different senses even from the ancient times. They may be considered in detail.

(1) *Snayu*.—Literally it means a structure serving to bind one part of the body with another. In Sushruta Samhita it evidently refers to a fibrous structure, generally a tendon, ligament or a membrane. In many Sanskrit works a vein, nerve or even a muscle has been referred to by the term. The modern writers in Bengali language use the term for a nerve.

(2) *Nadi*.—The term refers to a tubular structure in general sense. In Rigveda it means a tube or pipe. The term is not found in the present sense in the ancient Ayurvedic works. In the Upanishads, Samhitas and Tantras it is used for a nerve, but sometimes for a vessel as well.

(3) *Hingsra*.—The term is generally used as a synonym for *Jatamangsi* (Indian valerian), owing to the branching fibrous root of the plant. It is also used for a vein by the lexicographers. The term probably refers to arteries, veins and nerves, all characterized by branching, and hence may be well applied to arterial anastomoses or venous or nerve plexuses.

(4) *Dhamani* and (5) *Dhamani*.—Both the terms are applied to a tubular structure derived from a root which means blowing through a pipe. Perhaps it has the sense of some force contained in the structure concerned—in the form of pulsation in an artery or the nervous impulse in the case of a nerve. In Sushruta Samhita, the term is applied both for an artery and a nerve. The term is reasonably applied to an artery by modern writers.

(6) *Dhara*.—The term literally means a supporting structure, as ligaments, tendons, nerves and vessels. All of these structures, extending from one part of the body to another, help to bind them together directly or indirectly and hence may be referred to by the term. A vessel is usually meant by the term by the lexicographers.

(7) *Tantuki*.—The term literally means thread or a slender cordlike structure. The term may be appropriately applied to fine nerves, arterioles and vessels. It may be applied to lymphatics.

(8) *Jibitajna*.—The term evidently refers to a pulsatile vessel (artery), which indicates life by pulsation. The term "nadi" is generally applied in this sense in most of the treatises on sphygmology.

(9) *Sira*.—The term is used in the ancient Ayurvedic works both for a vein and an artery—but more for the former. Probably it refers to vein only, and its application to an artery (possible from the detailed account of the distribution of the *Siras*) seems to be due to confusion between a vein and an artery.

SIRAS AND DHAMANIS IN THE ANCIENT AYURVEDIC WORKS.

The *siras* are described in *Bhelasamhita* under Sarirasthanam, Chapter III.

अथ दशान्तर गुह्याः दश वैष्णवी छाथ्य । तद्यथा हि चक्षुषौ (२),
हिनासिके (४) कण्ठनाभौ (६) गुदमेद्रपायुस्तोतांसौति (१०) अन्तर-
गुह्या दशमन्याहृदयं निवद्धा भवन्ति, तत् प्रभवं चतुरङ्गलमात्रं गत्वा
विश्विर्भवन्ति । एवमेता दशमन्या षष्ठिर्भवन्ति । तत्प्रभवन्तु त्रौणि
त्रौणि शतस्त्रहस्तानि षष्ठ्यंशानि सिराणां । तद्यथा छृक्षशाखा वृन्तर्फला
शैवबतर (त), तद्यथा पर्वतोवाऽस्मभिरवतरः (तः) तथायं पुरुषः
सिराभिरवततः रोमकुपेच्छस्य सिरामुखं भवति ततः स्वेदः क्षरति ।

There are ten *siras* in the internal cavities (that is, the cavities inside the body—thoracic and abdominal cavities) and ten *siras* in the external cavities (that is, those spaces which open to the body surface). The ten *siras* of the external cavities are (1) two in the two eyes, (2) two in the nose, (3) two in the throat (the cavity of the mouth), (4) two in the vaginal cavity or penis, and (5) two in the rectum.

The ten *siras* of the internal cavities are connected with the heart; coursing for a length of fourfingers' breadth from origin, they become twenty. In this way the ten *siras* become sixty in number. These sixty *siras* dividing and dividing, thrice each, give rise to hundreds of thousands of *siras*. The body is overspread with *siras*, as a tree with branches and stalks, flowers and fruits and a mountain with stones. The terminations of the *siras* are placed in the pores at the roots of the hairs, through which the sweat is excreted.

The *siras* in the *Bhelasamhita* are probably to be taken for vessels and nerves. The *siras* of the external cavities with their destinations seem to be rather imaginary, based upon partial and incomplete

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observations. The two optic nerves are evidently meant by the *siras* of the eyes, but others seem to have been taken for granted, and hence it is impossible to identify them from the modern anatomical point of view particularly from the fact that so many arteries, veins and nerves are placed round and inside the cavities. As regards the *siras* of the internal cavities, we may note that they seem to be identical with the *dhamanis* of Sushruta and Bagbhata. As we shall see below, they have been assigned a different origin in these latter works than that in Bhelasamhita but they agree in the mode of branching and situation in the body cavities. The ten *siras* from the heart (if the passage does not mean "from the region of the heart" and hence not necessarily connected with the heart) might be the following vessels with a fair degree of probability :—(1) Right and (2) Left Innominate veins the superior vena cava being half placed inside the pericardium, (3) Right innominate artery, (4) Aorta (the beginning of Aorta being inside the pericardium it is quite possible to take the Innominate artery and Aorta as two structures arising independently in a superficial observation with the pericardium intact), (5) and (6) two branches of the Pulmonary artery and (7-10) the four Pulmonary veins from the lungs to the left auricle.

The *siras* and *dhamanis* are described in detail in Sushrutasamhita and Astangahridaya, the accounts being similar in both the treatises. Unfortunately there is a good deal of confusion in the texts of Sushrutasamhita, partly due to want of proper anatomical knowledge and partly due to additions and alterations made in the original text in a hap-hazard way by writers not having proper knowledge on the subject. The texts of Astangahridaya are far less confusing and convey a better idea on the subject.

The *siras* have been classified in both the works into four categories—(i) *Vatabahini* or carrier of Vayu, (ii) *Pittabahini* or carrier of Pitta, (iii) *Kaphabahini* or carrier of Kapha, and (iv) *Raktabahini* or carrier of blood. At the same time, there is a passage in Sushrutasamhita, in which it is said that all the *siras* in the body carry on all the four functions (*sarbabaha*) and there is no *sira* which is only Vayu-carrying, Pitta-carrying or Kapha-carrying. Thus there are two contradictory verses in two passages, evidently from the fact that the second one has been interpolated by a later authority who, at the same time, did not dare to omit the old one. In Astangahridaya we find it distinctly mentioned that blood flows through all the *siras* and that the blood is effected by *Vayu*, *Pitta* and *Kapha* in the first three cases and that pure blood flows through the fourth kind.

The following characteristics have been assigned to the four kinds of *Siras* :—(i) *Vayu-carrying Siras*, 175 in number.—According to Sushruta they are connected with the *Vayusthana* (place of origin of *Vayu*; the *Vayu* (in its natural condition) coursing through its *siras* helps in the unobstruction of the bodily functions, non-illusiveness of intellect and sense-organs, but, if it becomes deranged, gives rise to a host of diseases. The colour is yellowish red (*aruna*). According to the *Astangahridaya*, the colour is dark red (*shyavaruna*); the *siras* are slender, now full and then empty, and are pulsatile.

(ii) *Pitta-carrying siras*, 175 in number.—According to Sushruta, they are connected with *Pittasthana* (place of origin of *Pitta*). The *Pitta* (in the normal condition) coursing through its *siras*, produces glowing of the complexion, relish in food, kindling of the appetite, prevention of the diseases and other good effects. If deranged, *Pitta* gives rise to many characteristic diseases. The *siras* are blue in colour and are warm (jerky) to the touch. According to *Astangahridaya*, the *Siras* are warm (jerky) to the touch, fast flowing (that is, the beats pass in quick succession) and have the colour of a mixture of blue and yellow (*nilapita*).

(iii) *Kapha-carrying Siras*, 175 in number.—According to Sushruta, they are connected with *Kaphasthana* (the place of origin of *Kapha*). The *Kapha* (in the normal state), coursing through the *Siras* produce smoothness of the various parts of the body (that is, lubrication of the body surface), firmness of the joints, strength and activity and other good effects; when deranged, it produces a host of characteristic diseases. The *siras* are white in colour, cold (soft) to the touch and steady. According to *Bagbhata*, they are whitish in colour, cold (soft) to the touch and steady. *Vaghbhatta* further adds that in cases of mixed conditions (that is, when *Vayu* and *Pitta*, *Vayu* and *Kapha*, or *Pitta* and *Kapha* or the three together are carried in the same sira), the characteristics are of a mixed nature.

(iv) *Blood-carrying siras*, 175 in number.—According to Sushruta, they are connected with liver and spleen. The blood (in the normal condition), coursing through the *siras*, helps in replenishing (supplying with food) the bodily *dhatus* (fundamental structures of the body), in producing complexion, in the proper functioning of the sense organs of touch and other good effects; if deranged, the blood produces characteristic diseases. These *siras* are red and are neither very warm (hard) nor very cold (soft) to the touch. According to *Vaghbhatta*, they are placed deeply in a regular manner, soft, red in colour and carry pure blood.

If we combine the main characteristics of the *siras* as depicted in the three Ayurvedic works, we may, inspite of the great confusion between an artery, vein and nerve (which will be more apparent when we shall study the distribution of *siras* and particularly the enumeration of *siras* not to be bled for the purpose of vivisection) summarize the Ayurvedic conception of *siras* in the following words :—(1) The *siras* are distributed beneath the body surface and deeply in the muscles of the body. (2) They carry blood. (3) They indicate the characteristics of *Vayu*, *Pitta* and *Kapha*.

The original idea that there are four kinds of *siras* each having a special function might have arisen from erroneous observations and mistaken interpretation of observations perhaps somewhat in the following way : Having felt the pulsations in the living body, one finds at least two or even three structures side by side—a reddish structure without blood, a bluish structure with or without blood inside and a whitish hard structure. Knowing from observation in the living body that there are three sorts of pulse-characteristics of *Vayu*, *Pitta* and *Kapha*, it was quite natural for one to think of these three structures carrying on the three functions independently. That there are also such structures deep in the flesh of the body, one had to think of a fourth set for carrying blood to the various parts of the body. More careful observations particularly the comparison between the living and dead body (by dissection) led one to give up the former idea and consider that the same *Sira* can perform all the three functions (*Vayu*, *Pitta* and *Kapha*). At the time of Vaghbhata it was clear that all the *siras* carry blood and each can show the characteristics of *vayu*, *pitta*, *kapha* and normal condition ; the characteristics of mixed functions, spoken of in the same treatise, also point to the same direction. It may be noted here that the possibility of diagnosis of the *vayu*, *pitta* and *kapha* conditions (the principles of which had already been known from other bodily states) from the examination of the pulse came to be recognized at this period. The first step in the origin and evolution of sphygmology may thus be taken to have been indicated in Sushrutasamhita.

ORIGIN AND DISTRIBUTION OF SIRAS.—Bhela ascribes the origin of the *siras* of the internal cavities to the heart or the region of the heart ; their number is given as ten. These seem to correspond to the *dhamanis* of Sushruta and Vaghbhata. The two latter authors ascribe the origin of the *siras* to the umbilical region, and the number at origin is given to be ten by Vaghbhata, but forty (ten *vayu*-carrying, ten *pitta*-carrying, ten *kapha*-carrying and ten blood-

carrying) by Sushruta. The total number of *siras* is given as 700 in both Sushrutasamhita and Astangahrdaya, each of the four sets being 175. The fourth set is distributed to the deeper structures of the body. The actual state of things might be that the three superficial sets are to be taken for arteries, veins and nerves, the superficial distributions of which are fairly similar to one another. It may also be mentioned here that vivisection as a therapeutic measure was in vogue in ancient days and several *siras* were usually chosen for the purpose, while others were avoided, as the injury to these *siras*, according to the authorities, would lead to bodily deformity, loss of function of some particular part or member of the body or even death from bleeding or otherwise. Hence it is quite clear that only veins (perhaps medium-sized superficial veins) were selected for the purpose of vivisection and arteries and nerves (and perhaps large-sized and deep-seated veins) were avoided.

The *siras* are enumerated below according to Sushruta and Vaghbata. Although an effort has been made to correlate them with the structures as determined from the modern anatomical point of view, it is impossible to identify them even with some degree of probability.

There are twenty-five *siras* of each set in a limb ; of these four are not to be bled. There is a single *sira* in each limb, named *Jaladhara* (literally meaning supporting a membrane or rather supported by a membrane) which is not to be bled. The vein is thus placed in the superficial fascia and hence seems to be the *cephalic vein* in the upper limb and the *great saphenous vein* in the lower limb. There are three other deep-seated *siras* which are not to be bled. They are known as *urbis* and *lohitaksha*. The two *urbis* are placed in a vital space of the same name in the middle of the thigh ; the puncture of which results in atrophy of the leg owing to attending haemorrhage. Hence the *siras* in question might be the femoral artery and vein. The *lohitaksha* is placed in a vital part of the same name situated at the base of the thigh ; the injury to this *marma* is attended with excessive bleeding and paralysis.

The *sira* in question may be the *femoral vein* or *femoral nerve* in the lower limb. The corresponding *siras* in the upper limb might be the *brachial artery* (or *vein*), and the *auxiliary artery* (or *vein*)

There are thirty-two *siras* in the pelvic region (*sroni*) and of these eight are not to be bled,—there are two in each of two *bitapas*, the space between the testicles and inguinal region, and two in each of the two *katika taran*, the space on either side of the back-bone and towards the iliac bones (*sronikanda*). The two *siras* in each *bitapa* might be the *superficial external* and *deep external pudendal* arteries. The other two *siras* might be the *superior* and *inferior gluteal* arteries.

There are eight *siras* on each side (in the loins perhaps); of these one coursing upwards is not to be bled; there are two other *siras*, one on each side, which extend into the vital space known as *parsasandhi* (the space between the two sides, below and between the sides of the loin or buttock—and obliquely above it). The eight *siras* might be the *lumbar arteries* and *veins*. The *parsasandhi sira* might be the *external iliac artery*.

There are twenty-four *siras* on two sides of the back-bone; of these two ascending *siras* on each side (known as *Brihati*) are not to be punctured. These *brihati siras* are placed in the vital space of the same name of either side of the back-bone at the level of the breast. The twenty-four *siras* might be the *intercostal* arteries. Perhaps the *brihati sira* has nothing to do with these intercostal arteries and may be the *pulmonary veins* and *arteries* connected with the roots of the lungs.

There are twenty-four *siras* in the abdomen; of these two along each side of mons veneris are to be avoided in venesection. Perhaps the *superficial* and *deep epigastric* arteries are meant for these two *siras* on each side.

There are forty *siras* in the chest; of these the following fourteen are not to be bled:—two in the region of the heart, two in the root of the breast, two in each of the space known as *stanarohita* (placed above two fingers' width above the nipple), one in each *apatapa* space (situated below the shoulder and above the sides) and one in *apastambha* (a space on either side of the chest). The *sira* of the region of the heart might be the *internal mammary* arteries. The *sira* at the root of the breast might be the *external mammary* (a branch of the *lateral thoracic artery* from the axillary artery). The two *siras* of the *stanarohita* might be the pectoral branches of the *thoraco-acromial* artery. The *sira* in the *apatapa* space might be the *axillary artery*. The *sira* of the *apastambha* space might be the *subscapular artery*; but the result of the injury to this space as noted in the Ayurvedic works, namely the filling up of the thoracic cavity

with air and death from incessant cough and difficulty of breathing refers to pneumothorax from punctures of the lung tissue.

There are one hundred and sixty-four *siras* above the clavicle; of these fifty-six *siras* are placed in the neck and of them the following sixteen *siras* are forbidden to be bled:—two *nilas*, two *manyas*, (both the sets being placed at the sides of the *Kanthanadi* or larynx and referred to as *dhamanis*), two in the *krikatika* space (placed at the junction of the head and neck—that is, the mastoidal and occipital regions). two placed in the *bidhura* space (placed below and behind the outer ear) and eight at the sides of the neck, four on each side. The *nila* and *manyas* might be the *hypoglossal* and the *superior laryngeal* nerve (from vagus). The *sira* in the *krikatika* might be the occipital artery. The *sira* in the *bidhura* might be the posterior auricular artery. The four *siras* on each side low down in the neck might be the *common carotid, internal, external and anterior jugular veins*.

There are eight *siras*, on either-side on the jaw; of these two on the temporo-maxillary joint (that is, the articulation of the lower jaw) are to be avoided. These two are referred to as *dhamanis* and might be the *facial nerves*. The remaining seven *siras* might be the *external carotid* artery (upper portion), *facial artery* and its branches and the veins accompanying these arteries.

There are thirty-six *siras* in the tongue of which the sixteen are placed on the under side of the tongue. Of these again two are *rasa-carrying* and two are speech-producing. These sixteen *siras* are not to be bled. According to Gayi, there are twenty-eight *siras* (instead of 36) in the tongue. The *rasa-carrying* *siras* might be the *submaxillary* ducts. The speech producing *sira* might be the *lingual nerve* only large nerve there and really a nerve of taste. The remaining twelve *siras* might be two *sublingual* arteries, two *ranine* arteries and veins, the *lingual veins* which consist of several veins opening into the *internal jugular*. The remaining twenty *siras* might be the four branches of the *glossopharyngeal nerves*, eight muscular branches of the *hypoglossal*, the two trunks of origin of the *hypoglossal nerve* to the intrinsic muscles of the tongue and the *rami dorsalis linguae* which vary from 4 to 6. The difference of opinion in the number can be best accounted for if we take into consideration the variation in the number of the *rami darsalis lingual* and the *lingual veins*.

(To be continued.)

A BRIEF HISTORY AND OUTLINES OF AYURVEDA

BY

MAHAMAHOPADHYAYA KAVIRAJ

GANANATH SEN, SARASWATI, M. A., L. M. S.

(Continued from our last issue).

(3). "JATU KARNA SAMHITA"—a book highly spoken of by the Atreya School but unfortunately now lost sight of. Profuse quotations from this book are to be found in the commentaries of Chakrapani, Bejoya Rakshita, Srikantha, Shivadasa, and others.

(4—5). "PARASARA SAMHITA" and "KSHARAPANI SAMHITA"—the last two of the six famous works. Quotations from these works are found not only in the commentaries of Bejoy Rakshita and Srikantha but also in that of Shivadasa who is a much later writer. So we may assume that this book was easily obtainable even in the time of Shivadasa and we have reasons to believe that the works are available in manuscripts.

(6). HAREETA SAMHITA.—This Samhita was available in the time of Chakrapani and Bejoy Rakshita but is now lost. The printed book which now-a-days passes by this name is not the original Hareeta Samhita because quotations from it by the above commentators are not found in it and the work is full of such mistakes as would be impossible in an ancient work of this kind.

(7). KHARANADA SAMHITA.—Quotations from this work are found in the commentaries of Bejoya Rakshit, Hemadri, Aruna Dutta and other commentators. Quotations given in the commentary of Hemadri purport to be from Kharanada who is probably a different author.

8). VISWAMITRA SAMHITA—is a very ancient work. Quotations from this Samhita occur in the commentaries of Charaka and Sushruta by Chakrapani as also in the commentary on Chakradatta by Shivadasa.

(9). ATRI SAMHITA :—Opinions are divided as to whether this Samhita belongs to an ancient age or is of a more recent origin. Its antiquity is doubted as the ancient writers have not made any

reference to this book. It is said that a big volume of this name is available in the Punjab.

(10—11). KAPILA TANTRA & GAUTAMA SAMHITA.*—Quotations from these books are found in the commentaries on Sushruta and Nidana.

SHALYA TANTRA.

(*Works on Surgery.*)

(12—13). AUPADHENABA TANTRA AND AURABHRA TANTRA.—Nothing remains of these two works except their names mentioned in Sushruta Samhita. Quotations from them are rare. References to these works however occur in Dallana's commentary on Sushruta.

(14). SAUSHRUTA TANTRA OR BRIDDHA SUSHRUTA.—Briddha Sushruta is the original of the existing Sushruta Samhita while a certain section of Vaidyas sees no difference between the two. The latter view cannot stand, as texts from Briddha Sushruta quoted by commentators are not always found in the existing Sushruta. Shivadasa, the commentator of Chakrapani has quoted from Briddha Sushruta extensively. It is evident therefore that this Tantra was not obsolete even in his time (about 500 years ago).

(15). PAUSHKALABATA TANTRA.—Quotations from this are found in Chakrapani's commentary on Sushruta.

(16). BAITARANA TANTRA.—Stanzas from this book occur in Dallana and Chakrapani's commentaries. That commentators have made extensive quotations from it on subjects which are not treated or even mentioned in Sushruta leads us to conclude that this Tantra was more comprehensive than Sushruta.

(17). BHOJA TANTRA OR BHOJA SAMHITA.—Commentators have freely quoted from this book on subjects which are at once varied and new. We may therefore conclude that this Tantra was also a very comprehensive work. In his commentary on Sushruta, Dallana says, that Maharshi Bhoja was contemporary to Sushruta. His name is also mentioned in Sushruta. Consequently it cannot be a production of Bhoja Raj, the king of Dhar. Moreover books like Raja Martanda, compiled by Bhojaraj are known to belong to a considerably later date.

* Ayurvedic works, compiled by the Rishis are known either as Tantras or as Samhitas. Books which pass as Tantra Shastras belong to a different group.

(18). KARA-BIRYYA TANTRA.—Very few extracts from this work occur in commentaries, hence it may be inferred that the book was almost obsolete during the time of the commentators. The reference to the author however occurs in Sushruta.

(19). GOPURA-RAKSHITA TANTRA.—It is said that a Tantra of this name existed at one time though there is no conclusive proof of its existence. Quotations from this work are seldom met with in the commentaries. Many are of opinion that Gopura and Rakshita are two different persons and contemporaries of Sushruta (as mentioned in Sushruta) and each of them compiled a Tantra.

(20). BHALUKI TANTRA.—As mentioned before, Bhela-Samhita and Bhaluki Samhita are two different books and quotations from the latter are come across in the commentaries of Dallana, Bejoy and Sri Kantha. From a study of the description of surgical instruments, quoted by Chakrapani, it seems that Bhaluki Tantra was one of the most important works on surgery.

(3) SHALAKYA TANTRA.

(Works on Diseases of Eye, Ear, Nose and Throat.)

(21). VIDEHA TANTRA.—This work, compiled by the king of Videha, forms the most important surgical work on the above subject, and is the principal foundation upon which the section of Sushruta dealing with diseases of the Eye, Ear, Nose and Throat was written, according to Sushruta's own admission. Passages from this work have been freely quoted by Dallana, Bejoya Rakshita, Sri Kantha and other commentators. Bejoya Rakshita has made frequent quotations of passages from this work dealing on fever, digestive disturbances and jaundice, etc. Evidently therefore this book was dealt not only with a special subject but was a comprehensive and complete work as Sushruta itself.

Many are of opinion that Nimi and the king of Videha are one and the same person; but this is not true. We find Dallana and Sri Kantha Dutt quoting from both Nimi and Videha on the same subject. We are rather inclined to believe that this Tantra is the work of the great sage, Rajarshi Janaka, from a phrase "जनको विदेह" which occurs in Charaka.

(22). NIMI TANTRA.—As mentioned before, Nimi Tantra appears to be an independent work, quite distinct from the Videha Tantra. As quotations from this work occur in Sri Kantha's commentary, it is reasonable to suppose that this work was obtainable even in his time.

(23). KANKAYAN TANTRA.—We get references of this work in Charaka as well as in Dallana's commentaries, though, to our knowledge, quotations from this work are rare in other works now extant.

(24—25). GARGYA TANTRA AND GALOVA TANTRA.—Mention only is made of these works in the commentaries of Dallana in the section on surgery.

(26). SHOUNAKA TANTRA.—A very old work extracts from which occur in Dallana and Sri Kantha's commentaries.

(27). SHAUNAKA TANTRA—Quoted by Dallana and Chakrapani. This author is mentioned by even Charaka and Sushruta. But passages from it on foetal development as they occur in Charaka and Susruta are self-contradictory. It is likely that Shaunaka Tantra referred to by Charaka was not the same as mentioned by Sushruta, but this contradiction is only apparent as Charaka calls him the Shaunaka of Madra country. Passages are also quoted in Dallana's commentary which are ascribed to Shaunaka of Madra. From a study of the passages, as found in Dallana and Chakrapani we are inclined to believe that Shaunaka Tantra dealt not only with surgery but also on Anatomy and Materia Medica.

Many are of opinion that the author of the Shaunaka Samhita of the Atharva Vedas is also the author of the Shaunaka Tantra. This view is not tenable. The former Rishi belonged to a comparatively earlier date. In ancient times there were many Rishis bearing the same name; hence similarity of names cannot be entirely depended upon to arrive at a definite conclusion.

(28). KARALA TANTRA.—Dallana refers to the author of this work—"Karala-Bhatta." We cannot definitely state whether he was a Rishi as no Rishi is found with the surname "Bhatta." According to Dallana and Sri Kantha, etc., this book also belonged to very ancient period.

(29). CHAKSHUSHYA-TANTRA :—also referred to as "Chakshusyena Tantra." We get some idea of this book in the commentary of Sri Kantha Datta.

(30). KRISHNATREYA TANTRA.—Some say that Punarvashu Atreya is the author of this Tantra, which is not correct. From a study of the extracts in the commentaries of Srikantha and Shivadas, we are informed that Krishnatreya, the author of this Tantra and Atreya are two different persons.

(4).—BHUTA-VIDYA TANTRA.

(Works on Mental Diseases.)

At one time this branch of Ayurveda was in a flourishing condition but now it seems to be completely lost, so much so that there is no mention of a single special work on this subject in the commentaries.

At present the following references constitute the basis of the study of Mental Diseases.

- (1) A chapter on the Prevention of Mental Diseases in Sushruta (Uttaratana—Chap. 6).
- (2) A chapter on the Treatment of insanity in Charaka (Chikitshasthan—Chap 8)
- (3) A chapter on the Treatment and Prevention of Mental Diseases in Vaghbhata (Uttar—Chap. 4 5).

Though Sushruta and Vaghbhata have dealt with obsessions and mental diseases separately Charaka has included it under the heading of Insanity. Even commentators dating thousand years back had nothing to say about this science. We shall not be therefore far from the truth if we say that this science was lost and merged in ignorance and superstition at a very early age. Charaka has not only included obsessions and mental aberration under insanity but has also prescribed identical treatment for them. In ancient times, therefore, mental diseases were known as Bhuta-Vidya.

(5)—KAUMARA BHRITYYA.

Works on the Diseases of Children.

(31-33). JIVAK TANTRA, PARBATAK TANTRA, BANDHAK TANTRA.—It seems that many Tantras on this subject are lost. We give here below what we have been able to glean about these books.

In his commentary on the *Uttaratana* of Sushruta, Dallana mentions the names of Jivak, Parbatak, and Bandhak. It seems that at one time, their works were highly valued.

It is said that these authors were Buddhist monks. Of them mention is made in Buddhist history. Jivak, the Buddhist physician, is known there as "Jibaka-Kumara-bhachhya." He was a disciple of the Buddhist monk Atreya and was physician to Lord Buddha and the Buddhist Emperor Bimbisara.

A consensus of opinion says that the monk Atreya (Bhikshu Atreya) mentioned by Charaka, is the same person as Atreya, the

Buddhist monk. But in one place, Charaka mentions that the great sages Bashistha, Viswamitra, Bharadwaj, Atreya and others met in an assembly with the monk (Vikshu) Atreya at a place near the Himalayas. Since these Rishis belonged to a very ancient time, it is impossible that the person mentioned in Charaka as Atreya is the same as the Buddhist monk of the same name.

Chakrapani quotes from "Kaumarabhrityya Tantra" in his commentary on this section of Sushruta, but we have been unable to trace the author of this Tantra.

(34) **HIRANAKSHYA TANTRA.**—From what we gather from the Extracts from this book quoted by Srikantha Datta, it seems this work mainly dealt with the Diseases of Children.

Sushruta has described the diseases of children in not less than twelve chapters in his Uttaratantra; and this tempts us to believe that at one time this branch of Ayurveda was a vast and exhaustive one.

We must mention here that Midwifery is not included in this branch as supposed by some people. In ancient Vaidic literature, they included Anatomy and Midwifery in Surgery. Gynaecology however was dealt with separately. At the end of the chapter on Prolapsus Uteri in Sushruta the following passage occurs,—“Thus ends the section Uttaratantra of Kaumarabhritya.” This leads us to suppose that female diseases were sometimes included in the treatment of diseases of children.

REVIEWS AND NOTICES OF BOOKS.

Sad Neglect of Physical Culture among the Indians :—By Piyush Kanti Ghose, B. A., with a foreword by Sir Surendra Nath Bauerji, Kt. 2nd Edition. Price Ans. 2 only. Can be had of the Amrita Bazar Patrika Office, Baghbazar, Calcutta.

We congratulate our friend Babu Piyush Kanti Ghose on his brochure on physical culture, which has met with a warm welcome from all sections of Indian Community. It must be admitted on all hands that a nation poor in physique is not fit for the rights of citizenship. The author has made out a strong case for building up a physically fit generation as the only asset for advancement in every wake of life. We have read the book with keen interest and recommend every father to present a copy of same to his son, so that by its careful perusal and following the lines indicated therein they may be inspired to attempt in attaining the sole object of a happy manhood—abundant physical energy and radiant health.

TREATMENT OF RABIES IN AYURVEDA

BY

KAVIRAJ SHIVANATH SEN, B.A., M.B. (Calcutta),

ASSISTED BY

A. RAMAN OF MALABAR.

[We welcomed Lt. Col. Cornwall's comment on the article on "Rabies in Ayurveda" in the February issue of this journal. Answers to some of the points raised in his letter will be found here.—Ed]

In my article on Rabies I wrote that "if the method can be well formulated it will be a treasure to the medical world." How more plainly could I admit that the method is not well formulated and tabulated? Besides, we have got no hospitals in our control, so as to enable us to experiment with a drug as soon as we feel the necessity.

It is very different and in truth improper to fix the dose of a drug without oneself personally using it in a number of cases.

SUSHRUTA and other authors of Ayurveda have given us the dosage of drugs they recommended, but times have changed so much and with it the constitution of men that it is not advisable to begin with their dosage. The delay to complete my half-finished article is due partly to this cause as I wanted to consult Malabar practitioners who to this day treat cases of rabies (dog bites) with success. Thanks to Col. Cornwall for thus goading me, as it were to action.

According to Ayurveda the treatment of rabid dog-bite should in all cases be done before the appearance of the symptoms, i.e., during the incubation period.

Some of the authors say that the incubation period may be long and do not ascribe any definite period to it.

Some again are more definite on this point, and say that the incubation period is six months from the time of infection.

अलक्दषः षन्मासात् पूर्वं नश्यति निश्चयात्
स्वयमुभत्तामेव * * *

(RAMVARMA'S *Prayog Samuchchaya*).

"A man bitten by a rabid dog surely dies within six months, becoming mad without apparent reason, i.e., getting the symptoms of rabies in due course and not by any provocative method."

But all are unanimous as regards the desirability of early treatment as early as the suspected patient approaches the physician. In Southern India and Ceylon native specialists who have got reputation in the treatment of rabies are of opinion that the treatment should be resorted to two weeks after the patient has been bitten, that is between the 15th and 25th day.

LOCAL TREATMENT.

If the patient comes to the physician just after the bite, enquire if there has been considerable hemorrhage from the wound. If there has been very slight haemorrhage, incise the part so as to enlarge the wound and squeeze the part to help bleeding and then cauterise as above. Finally cover the wound with a paste made of the fruits, roots, bark, flowers and leaves of Shirisha (Mimosa Sirissa) each of equal quantity pounded on a stone mortar and well mixed with a quantity of ghee.

शिरीष फलमूलत्वक्पुष्पपत्रैः सङ्कृतैः ।

अथ पञ्चशिरीषोऽयं विषाणां प्रवरोधे ॥

—CHARAKA, *Chikitsa*, Ch. xxiii).

INTERNAL TREATMENT. (*Susruta's Method.*)

It is practically the same as CHARAKA's method.

First of all give a smart purgative and an emetic to empty the bowels and stomach. As an emetic they recommend milk of "अर्क" (Calotropis Gigantica) about a drop to a drachm and a half. Then when the patient's stomach is empty, he should be given a few cakes morning and evening, made of powdered seeds of "Datura Alba" half a tola, and powdered root of Sharapunkha (Tephrosia purfurata), one tola, with plenty of powdered rice made into a paste with rice water and formed into cakes covered with Datura leaves and baked.

Then the patient should be kept in a dry and cool room. The text runs as follows:—

मूलस्य गरपुष्टायाः कर्षं धृत्तुरकार्षिकम् ।

तरणुलोटकमादाय पेषयेत्तरण्णले: सह ॥

जन्मत्तकस्य पत्रैसु संबेष्टग्रापूपकं पचेत् ।

खादेदौषधकालेतमलर्कं विषदूविषतः ॥

करोत्त्वन्यान् विकारांसु तरिमन् जीर्णति चौषधे ।

विकाराः शिशिरे याप्या एहे वारिविवर्जिते ॥

Sushruta, Kalpa, Ch. viii.

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When the medicated cakes are being digested the patient becomes mad and does many things like the animal that has bitten him.

**“तस्य भक्षितस्य जरणकाले योगप्रभावात् पातुरः
कुकुरचेष्टा एव करोति ।**

—(Dallyanacharyya's Commentary on Sushrata.)

If among other symptoms of madness this special symptom, viz., imitation of the cry and action of the rabid dog is present, we know that the patient was infected.

If this particular symptom does not appear we know that though bitten by a rabid dog he has escaped infection.

Then the patient is bathed with a huge amount of cold water which is poured over his head for a prolonged time. All this time the patient is to be controlled and prevented from violence. He is given Dahi (curd), juice of sugarcane, syrups and other cooling things to drink.

Gradually the patient becomes calm and sleeps for a long time. After the sleep, he is considered to be cured.

SOUTH INDIAN METHOD.

In the morning after the 15th day a dessert-spoonful of powdered charcoal is given to the patient; half an hour afterwards an ounce of the juice of "Black Dhatura" leaves (Dhatura Tastuora) is administered, and soon after jaggery or something else is given to check vomiting. Then the patient is bound with broad and strong tapes as he may not do mischief to others and is kept in the sun for four or five hours until noon. After this the patient gradually becomes mad, and does many things like a mad dog.

In the afternoon many pots of cold water are poured over his head.

This causes great annoyance to the patient, but after this he returns to his senses and may then be considered as out of danger. He is given a simple diet and allowed to sleep.

CEYLONSE METHOD.

So far as we have been able to gather this is practically the same as the South Indian method; only it adds one more process in treating the patient. Sometimes they employ this method even when he has developed signs of Hydrophobia. In that case the front part of the patient's head is shaved and scratched with a lancet so as to make it bleed a little.

The leaves of Black Dhatura ground and made into a paste, are afterwards rubbed over the scarified part on the head. Internally they administer the juice of the leaves of the same plant.

That their methods compare very favourably with the method adopted in the Pasteur institutes has been critically observed by Surgeon-Major Dr. John Attigalle M.D. (Aberdeen), M.R.C.S. (Eng.), Retired Colonial Surgeon, C.L.I. I take the liberty of reproducing his views on the subject from his book "Singhalese Materia Medica":—

"One of the drugs used in the treatment of mad dog bites is "Attana" (*Datura Tattuosa*). There are men who have set themselves up as specialists for the treatment of these and they chiefly aim at preventing attacks of Hydrophobia arising in those bitten by mad dogs. As a rule the remedies employed are kept as family secrets, and it would appear different men use different remedies and methods of treatment.

"I must have seen close on a hundred cases of mad dog bites treated by them in the course of my practice among the people of the country extending over half a century and I can not undertake to say that their treatment is altogether futile.

"The percentage of those who did not get hydrophobia was certainly as good as in the Pasteur treatment, after making due allowance for those cases in which we know the disease does not appear even without any treatment at all.

"Of the many cases that have come under my observation, I can remember only three which were treated by the old Western method of cutting out the bitten part and cauterising it. Of these two proved fatal subsequently from hydrophobia, and in the third case which was recovered, it was very doubtful if the dog had been actually mad. Of the rest that came under my observation during the last fifty years I can remember not more than three or four at the most which proved fatal.

"All the others escaped from hydrophobia and they were treated by native specialists. This statement would appear almost incredible, but it is nevertheless the fact. Whenever cases of mad dog bites treated by native specialists came under my notice, I invariably took a particular interest in them and made enquiries from the friends as to their progress and the treatment adopted. I endeavoured to find out the latter, but all in vain.

"They would on no account tell me what their treatment was.

"Only a native Baptist minister who was stationed at Gampola in the latter part of the seventies of the last century and had a great reputation for treating persons bitten by mad dogs successfully, told me the secret.

"His chief drug or rather the only drug used by him was Attana (*Datura Tattuosa*)."

* The drugs chiefly employed by Ayurvedists as preventives of Hydrophobia are Datura of the black and white variety, and Calotropis and a few others. Researches in these drugs may be expected to give us some clues to a method of treatment simpler than the present method of Pasteur Institutes. We invite our colleagues to work out the subject.—*Ed.*

1925.]

VEGETABLE DRUGS IN AYURVEDA.

THERAPEUTICS OF SAPTAPARNA

BY

KAVIRAJ A. C. BISHARAD, VISHAGBHUSHAN, M.R.A.S (Lond.)

SYNONYMS.

SANS. :—Bishaltwak, Saptaparna, Bharada, Blshamachchada, Shalmali-patraka, Chhatiparna, Gudhapuspa, Madagandha, Gandhiparna.

HINDI :—Chhatian, Satona, Chhatiban.

CANARESE :—Elelega.

MARHATTI :—Satabana, Satwina.

TELUGU :—Edakula, Aritaku.

BOMBAY :—Chhatbin.

GUJARATI :—Saptaparna.

CEYLONES :—Rook-aol.

BERY :—Chhatim,

ENGLISH :—Dita Bark.

LATIN :—Alstonia Bark.

HABITAT :—Abounds in almost all parts of India.

PARTS USED :—Flowers, bark and gum.

PHYSICAL CHARACTERS.—The trees grow mostly in jungles and are very high. The bark is very thick, white and spongy and slightly bitter in taste. The gum is white in colour and the flowers are either white or slightly yellowish.

DOSES :—*Pulv. Bark*—6 grains to 24 grains.

Pulv. Flowers—6 grains to 36 grains.

Gum—6 grains to 32 grains.

Fresh Juice of bark or flower—2 drachm.

Decoction of the bark—2 oz. to 4 oz.

CHEMICAL COMPOSITION.—An alkaloid—ditamine; two bases—echitamine and echitenene; also echicaoutchine, an amorphous yellow mas; echicerin, in acicular crystals; echitin, in crystalized scales; echitein, in rhombic prisms; and echirotin, an amorphous substance. An inferior quality of guttapercha is also obtained from the bark.

In Ayurveda Saptaparna has many uses and is recommended in various ailments.

Dhannantariya Nirghantu speaks of it as having the property of allaying the *Tridosha*. It is a heart tonic, invigorator and laxative and cures colic, cysts, worms, and leprous ulcers.

Rajanirghantu describes it as possessing a bitter taste, heating and allayer of *Tridosha* and stomachic and is a effective remedy in boils, dysentery and worms.

Bhabaprokasha recommends it in boils and ulcers, worms, leprosy, chronic fever, dyspepsia, cystic growths, sprue, dysentery and diseases arising out of vitiated blood.

According to *Charaka* the decoction of *Saptaparna* is recommended to be used in Leprosy for bathing and drinking. In another place we find him prescribing it for the correction of mother's milk. A compound decoction of equal parts of *Guduchi* (*Tinospora Cordifolia*) and *Saptaparna* bark is generally used.

Sushruta used a decoction of the bark in *Sandra Meha* (in which the urine kept overnight becomes coagulated). It was found also useful in allaying tooth-ache and swollen gum, resulting from the use of any poisonous stick as tooth-brush. The following compound is used in hiccough :—

R/-

Saptaparna flowers

Pippali (long pepper) aa,

in doses of 12 grains to be administered with curd.

Bagbhatta in the treatment of hiccough due to the derangement of *Pitta* and *Kapha* gives the following recipe :

Peepul powder and honey mixed with the juice of *Saptaparna* bark, to be taken internally.

In tooth-ache due to the presence of worms the affected portions should be treated with the gum. In poisonous ulcers the powdered gum is applied with good results.

We have used the decoction of the bark administered with *Sri Jayamangala Rasa*, *Navayasa Makaradwaja* and *Bt. Lokenath Rasa* with unexpected good results in chronic fever attended with enlargement of spleen and liver. Cases treated as *Kala-azar* and declared hopeless have been brought round by this treatment. Hence I would ask my brother practitioners to try the efficacy of *Saptaparna* specially in cases declared as malaria and *Kala-azar*, which fall under the classification of *Jeerna Bishama Jwara* of *Ayurveda*.

The following about the uses of *Saptaparna* taken from *Khory*, Vol. 11, page 383, will be of interest to the profession in guiding

them to a certain extent about the therapeutic properties of this drug :—

" DITAMINE.—To obtain it exhaust the powdered bark with petroleum ether, and add boiling alcohol. An amorphous or crystalline powder, having "alkaline reaction and bitter taste, similar to quinine. Dose—5 to 15 grains."

" ACTIONS AND USES.—As an alterative, the bark is given in gout, rheumatism, skin diseases, etc. As an astringent in chronic diarrhoea and in advanced stage of dysentery. As a bitter tonic in convalescence from exhausting diseases and fevers. The alkaloid is regarded as febrifuge equal "to quinine in efficacy, and is given in all forms of malarial fevers. It is also a "decided galactogogue."

Rheede in 1678 and Ramphus in 1741 found it useful in catarrhal dyspepsia and consequent fevers attended with enlarged spleen. The dose recommended by him is 15 grains of the powder of the bark or decoction to be taken at bed time.

" Nimmo in 1839 called attention to the bark as a powerful tonic and suggested its use as an antiperiodic. It is official in the *Pharmacopoeia of India* and is described as an astringent, anthelmintic and antiperiodic. In the Concan, the juice of the fresh bark with milk is administered in leprosy "and is also prescribed for dyspepsia and as an anthelmintic. The bark was "found to act as a very powerful galactagogue ; in one case the use of the drug "was purposely discontinued at intervals, and on each occasion the flow of the "milk was found to fail."

" The people of Manilla having been in the habit of using it from time "immemorial in decoction against malignant, intermittent and remittent "fevers with the happiest result, the attention of the leading physicians was "excited, and the active principle *Ditain* has now become a staple article, and "ranks equal in therapeutic efficiency with the best imported sulphate of "quinine. Numberless instances of private and hospital practice carried out "by our best physicians, have demonstrated this fact. Equal doses of *Ditain* "and sulphate of quinine have had the same medical effects ; besides having "none of the disagreeable secondary symptoms such as deafness, sleeplessness, "and feverish excitement which are the usual concomitants of large doses of "quinine, ditain attains its effects swiftly, surely and infallibly.

" We use ditain generally internally in quantities of half a drachm for "children, and double the dose for adults, due allowance being made, of course, "for age, sex, temperament, etc. We derive beneficial effects from its use, too, "under the form of poultices. Powdered ditain bark, cornflower—each half a "pound; hot water sufficient to make a paste. Spread on linen and apply "under the arm-pits, and on the wrists and ankles, taking care to renew when "nearly dry, and provided the desired effects should not have been obtained. "The results arrived at by Ditain in our Manilla Hospitals and private practice "are simply marvellous. In our military hospitals and penitentiary practice, "ditain has perfectly superseded quinine, and it is now being employed with "most satisfactory results in the island of Mindanao, where malignant fevers "are prevalent."—DR. GIBSON in the *Pharmaceutical Journal*, Vol. XII, P. 422.

Reports and News.

MAHATMA GANDHI vs. AYURVEDA.

(*Young India.*)

"Kaviraj Gana Nath Sen writes :—“I take this opportunity of drawing your attention to the fact that the speech you delivered when laying the foundation stone of the Astanga Ayurved Vidyalaya has been greatly misconstrued both by the public and by the Ayurvedic physicians of Calcutta. May I suggest that you will kindly explain that you did not mean to condemn Ayurveda itself or its conscientious votaries but only a certain section of them who lived by fraud? To me such an explanation appears to be urgently required in view of the fact that almost all Bengali papers are misinterpreting your speech and condemning us for ‘not contradicting it.’”

* * * *

“I gladly comply with the request, the more so because it enables me to express my views about Ayurvedic Medicine.

“I must say at the outset that I was reluctant to perform the ceremony referred to as I was reluctant even to perform the ceremony of opening the Tibbi College by reason of the views I hold on Medicine in general as expressed in my booklet *Indian Home Rule*. Seventeen years’ observation has made no material change in them. If I rewrote the book, it is just possible that I should state the views in a different language. But I could no more resist the organisers of my tour than I could a bosom friend like Hakim Saheb. But I told them that my speech might prove embarrassing. Had I been absolutely hostile to the movement I should of course have declined the honour at any cost. But I could reconcile myself to the performance subject to the conditions I named at the meeting. I hope that the college of which I laid the foundation and to which I understand the founder, himself a Kaviraj, has devoted a princely sum will contribute to the alleviation of real suffering and make discoveries and researches in Ayurveda that will enable the poorest in the land to know and use the simple indigenous drugs and teach people to learn the laws of preventing disease rather than curing them.

“My quarrel with the medical profession in general is that it ignores the soul altogether and strains at nothing in seeking merely to repair such a fragile instrument as the body. Thus ignoring the soul, the profession puts men at its mercy and contributes to the diminution of human dignity and self-control. I note with thankfulness that in the West a school of thought is rising slowly but surely which takes count of the soul, in trying

to repair a diseased body and which, therefore, relies less on drugs and more on nature as a powerful healing agent. My quarrel with the professors of Ayurvedic system is that many of them are mere quacks pretending to know much more than they actually do, arrogating to themselves an infallibility and ability to cure all diseases. These gentlemen have no humility in them. They will not study the Ayurvedic system and wrest from it the secrets which appear at present to be completely hidden from the world. They impute to Ayurveda an omnipotence which it does not possess, and in so doing they have made it a stagnant system instead of a gloriously progressive science. I know of not a single discovery or invention of any importance on the part of Ayurvedic physicians as against a brilliant array of discoveries and inventions which Western physicians and surgeons boast. In fact, Ayurvedic physician's diagnosis as a rule consists in feeling the pulse which I have known many to claim enables them to know even whether the patient is suffering from appendicitis. Whether the science of pulse ever enabled ancient physicians to diagnose every known disease, no one can tell. But it is certain that the claim cannot be sustained at the present moment. The only thing Ayurvedic physicians can safely claim is a knowledge of some of vegetable and metallic drugs of great potency which some of them succeed in administering for diseases they only guess and therefore often with much harm to their patients. The advertisement of medicines that excite animal passions add immorality to incapacity and make those who resort to these practices a real danger to society.

"I know of no association of Ayurvedic physicians that protests against or endeavours to check this ceaseless flow of immorality which is sapping Indian manhood and making of many old men, monsters, living merely to satisfy their lust. Indeed, I have known such physicians enjoying a status of respectability in medical society. Whenever, therefore, I get an opportunity I seize it to drive the truth home to the physicians Ayurvedic and Unani and plead for truth, humility and patient research. I am a lover of all that is ancient and noble. I believe that there was a time when Ayurvedic and Unani medicine served a noble purpose and was progressive. There was a time when I actively helped these physicians and believed in them. But experience has undeceived me. I have been grieved to find arrogance and ignorance among many such physicians. It hurts me to find a noble profession being prostituted for making money. I have written this not to condemn individuals. I have merely reduced to writing the impression that has been left on my mind, by a long course of observation of the practice of Ayurvedic physicians. It is no answer to say, as has been said, that Ayurvedic physicians have copied the evils I have named from their Western brethren. A wise man copies not what is bad but that which is good. Let our Kavirajes, Vaidyas, and Hakims apply to their calling a scientific spirit that

Western physicians show ; let them copy the latter's humility, let them reduce themselves to poverty in investigating the indigenous drugs and let them frankly acknowledge and assimilate that part of Western medicine which they at present do not possess. Let them shun the irreligion of the Western scientists which in order to heal the body and in the name of the science, subject the lower animal kingdom to the hideous tortures which pass muster under the name of vivisection. Some will warrant that there is warrant for vivisection in Ayurveda. If there is, I am sorry. No warrant even in the four *Vedas* can sanctify sacrilege."

AYURVEDIC PHYSICIANS UP AGAINST MAHATMA.

On Friday the 19th June, a meeting of the Poona Vaidyak-Mandal was held in the office of the Mandal to consider Mahatma Gandhi's speech delivered on the occasion of laying the foundation stone of Ashtanga Ayurveda-Vidyalaya at Calcutta as reported in the May number of the JOURNAL OF AYURVEDA, Calcutta, in connection with his explanatory article appearing in the issue of *Young India* dated 11th June, 1925. Mr. R. V. Patwardhan, B. A., L. L. B. was in the chair. After discussing the article both in connection with its letter and spirit the meeting unanimously passed the following resolution which was proposed by Vaidyapanchanan Krishna Shastri Kavade and supported by Ayurveda-Visharad Raghunathshastri Joshi, Vaidya Trimbakshastri Apte, Vaidya Harishastri Sane, Bhishagratna Gangadharshastri Joshi, Vaidya Sadashivashastri Bhave, Ayurvedacharya Purushottamshastri Nanal, Ayurvedavisharad Anantshastri Joshi, Vaidya G. D. Bhave and others.

"The Vaidyas of Poona assembled in meeting strongly protest against the wild, indiscreet and reckless attack on the Ayurvedic physicians in general. The original speech as well as the article has deeply wounded the feelings of all the Ayurvedic Physicians devoting their life to the utmost of their power to alleviate the sufferings of the humanity. The emphatic assertions in the said issues that "My quarrel with the Professors of Ayurvedic system is that many of them, if not indeed a vast majority of them, are mere quacks, pretending to know much more than they actually do, arrogating to themselves an infallibility and ability to cure all diseases. These gentlemen have no humility in them, etc." (*Young India*) and "That our Ayurvedic and Unani physicians lack sanity. They lack humanity, etc." (*The Journal of Ayurveda*) clearly go to show the deranged condition of the brain of the writer especially when he holds the position of the President of the Indian National Congress which resolves every year that the indigenous systems of medicine should be revived and encouraged throughout the country and when he claims to be the apostle of absolute non-violence in action, speech and even in thought."

THE LANKA AYURVEDIC MEDICAL COLLEGE

JAFFNA (CEYLON)

OPENED FORMALLY BY

HON SIR A KANAGASABAI, DISTRICT JUDGE, JAFFNA,

At 4.30 p.m. on Wednesday, May 27th 1925.

LOCATED AT

Kanaga Villa, Nallur, Jaffna.

—o—

This Ayurvedic College the first of its kind in the Island of Ceylon has been conceived and brought into working order by the philanthropic munificence of Mr. Bastiampillai, a reputed Ayurvedic Physician of Jaffna, who after a brilliant career as a medical Practitioner of the science of Ayurveda in the Straits, for a period extending over a score of years, has been working for reviving the indigenous system of the land and as a first step towards it, has established this institution, to aid in the revival of the system.

In this endeavour he has requisitioned the services of Dr. Samey, Ph. D. (Gold Medalist) Vidyabhushana, and Kaviratna of Ayurveda, from India. This gentleman has travelled throughout India and visited the prominent Ayurvedic colleges and schools in Calcutta, Madras and other parts including the newly opened Government School of Indian Medicine in Madras. He has written books on the subject of "Medical Practice in India", "Self-Determination in the medical practice of India," "Revival of Ayurveda", etc. Besides he has made a comparative study of the various systems of medical practice extant in the east and west and has been honored with Doctorates in Medicine and Philosophy by Foreign universities. He is the author of "Personal Hygiene" published by Messrs. Butterworth & Co (India) Ltd., Calcutta and London. This book has received the highest praise by all the leading medical and Sanitary Journals. He has served as district Health officer of Tippera in Bengal and is a specialist in Sanitary science and Hygiene in which he holds a Gold Medal. He has made a special study of Ayurveda and is very well posted on up-to-date information on the subject and as the Vice-Principal of the College he leaves an imprint of his mastery of the subject in the drawing up of the prospectus of the college.

The institution is public in character inasmuch as its government is in the hands of a managing committee, consisting of Hon. Mr. W. Duraisamy B. A., Advocate ; President, Hon. Mr. S. Rajaratnam, Advocate, Mudaliar V. M. Muttucumaru Maniger, Jaffna, Dr. J. Bastiampillai, Treasurer and Dr. Samey Kaviratna, Secretary. There is a Hospital attached to the institution with the provision to receive eighteen patients and it is gratifying to note that there are already four patients in the wards of its hospital within a week of its opening. The College started work on the 28th morning (28-5-1925) and has 18 students on the rolls. And more students are expected to join before the end of this month, as most of the students had very short notice of its opening. Instruction is imparted through English and Tamil. The English classes being held in the morning and Tamil in the noon. Very favourable press notices have appeared in the English and Tamil papers as well as Sinhalese press. So far the entire financial responsibility is cheerfully borne by the Honorary Principal Dr. Bastiampillai, the founder of the college. It will be a superfluity to add that work of such a nature needs encouragement by the public and the State for its perpetuity and its prosperity and as a pioneer attempt this noble undertaking deserves well of the Government and State which the management respectfully solicits.

A qualified Sub-Assistant Surgeon has been requested to work as the House Surgeon of the Hospital attached and a noteworthy feature is that he is a hereditary Ayurvedic Physician as well. Besides the Principal and Vice-Principal there are two other professors engaged in teaching. Hence the college has the nucleus for rapid expansion, when encouraged.

As a fitting Cope-stone to the worthy enterprise the retiring Principal of the Government Ayurvedic College, Trivandrum, Mr. Vankiteswara Sastry has been appointed as Tamil Professor of Ayurveda in this College on the recommendation of the Government Director of Ayurveda in Travancore M.R.R.Y. K. Sankara Menon M. A. L. T. The venerable professor has put in 32 years service under the Ayurvedic department of the Government of Travancore and his experience as the Principal of the Government Ayurvedic College will be a valuable asset to this new Institution.

CORRESPONDENCE.

RENAISSANCE OF AYURVEDA.

To

THE EDITOR,

THE JOURNAL OF AYURVEDA,

CALCUTTA.

With the recognition of the claims of Ayurveda by the State as the medicine of the mass of Indian population, the *first stage* consisting of the struggle of the indigenous system for such recognition is fast disappearing and the *second stage* how best to rejuvenate it is looming large before the mental horizon of all well-wishers of the national system of medicine.

In my opinion Ayurveda cannot move on "old grooves." It is not enough to subsidize Ayurvedic dispensaries and hospitals, without at the same time, attempting to rejuvenate it, for "such a policy of drift will lead us nowhere." Change is the nature of the world, be it advanced or retrograde movement, for nothing can remain at a stand-still without stagnation.

Thoughtful men, medical and lay, have from time to time, from different platforms, given out their opinion how best to rejuvenate Ayurveda.

Thus Lord Hardinge an Ex-Viceroy of India at the opening ceremony of the Ayurvedic and the Tibbi College, Delhi, March 1916 stated as follows :—"When I remember how many millions in India are beyond the reach of medical aid (Allopathy) provided by Government and how many of those who have means of access to consult best doctors, still prefer to be treated in accordance to the indigenous system of medicine, I came to the conclusion that I should be wrong to discourage the scheme which aims at improvement and development of this (Eastern) branch of medicine."

The pronouncement by an ex-Viceroy is all the more significant coming from the highest lay authority that *Ayurveda is not only the medicine of the mass but of a certain percentage of the educated public who prefer it over Allopathy at least in some diseases.*

"The ideal system of medicine of our country," says Colonel Ganapat Rai, I.M.S., "will be the best of Ayurveda and Allopathy modified to suit the needs of our country. For on many an occasion I had succeeded with the indigenous system where Allopathy failed.—(Andhra Medical Journal, February 1924)".

* The Editors do not hold them responsible for the opinion of the correspondents.

Sir Nilratan Sircar, M.A., M.D., the leading Indian Medical man of Calcutta, a former Vice-Chancellor of the Calcutta University stated as follows :—“A Pharmaceutical society should be established to investigate and study Indian drugs, compile and preserve an Indian pharmacopoeia.” (Presidential address at the All-India Medical Congress, Delhi, December 1918).

Mahamohopadhyaya Gananath Sen, the leading Ayurvedic scholar of India stated that “medicinal plants and a garden for cultivating drugs are urgently needed”. (Presidential address at the opening ceremony of the Benares Hindu University).

“Some effete materials”, says Mahamohopadhyaya Gananath, “have crept into mutilated Ayurvedic literature, which are nothing but interpolations and these should be ruthlessly scalped.” (Ibid).

The Hon’ble Mr. Cardew in the Madras Legislative Council, Nov. 1918 stated as follows : “Two lines in which research will be useful are a critical study of Ayurvedic books and investigation of Ayurvedic drugs.” The latter work has been recently taken up in Calcutta and Madras.

Instances like these of individual suggestion for improvement in particular directions can be multiplied to an extent, but the time has come to focuss these together and crystallize these into a clear-cut plan of action, so that the glorious heritage of our forefathers, the indigenous system of medicine reaches its *third or highest stage, viz.*, to relieve suffering humanity irrespective of caste and creed, race and religion, nationality and locality.

This was the great ideal of the late lamented Mr. C. R. Das in the region of politics who was dreaming of a federation or brotherhood of nations of the world ; this is the ideal of our great national poet Dr. Rabindra Nath Tagore in his Biswa-Bharati, the international University at Bolepur, which can be compared to the Nalanda University in the Buddhistic times ; this is the ideal of Sir J. C. Bose, the great scientist in his Science Institute and there is no reason why this should not be the ideal of the modernized Ayurveda.

It is interesting to note that Major Knowles, I.M.S., had recently stated in the *I. M. Gazette* in the same strain, “The future of medicine in India demands the very clearest thinking and in the absence of any well-planned policy, the state of medicine in this vast continent may substantially deteriorate, until nothing but a chaos of conflicting systems and vested interests result to the infinite detriment of the people.”

The following outline of a plan is humbly suggested with the hope that abler men will modify or amplify it according to our national needs :

(1) A museum of Ayurvedic drugs should be started in each province and attached to the Ayurvedic school or college, already started or about to start in the various provinces of India.

Now that many of the district boards in the different provinces have opened Ayurvedic charitable dispensaries and appointed vaidas, local drugs should be procured through them at a minimum of expense. Each district board should therefore be requested to collect specimens of drugs through their appointed Vaidas for the Central Ayurvedic Association for local and central museums.

There should be interchange of specimens between one province and another, so that each provincial museum should have a complete stock of specimens of indigenous drugs and the students can easily learn to identify them.

Each specimen should be accurately labelled with both botanical and Vernacular names which vary with each locality, before it is exhibited in the museum.

The gathering and selection of drugs, if so arranged will be an improvement and genuine drugs should be collected.

The Central Ayurvedic Association will issue a pamphlet giving the names of all Ayurvedic drugs with botanical and different vernacular names, with instructions when and how to collect a drug and which part is used for medicinal purposes from authoritative Ayurvedic books on the subject.

(2) *Govt. plantation for Ayurvedic drugs* should be started in each province for the cultivation of local drugs which thrive best locally, so that there would be no difficulty to secure them in any quantity, now that the demands for these drugs will be daily increased and price will thus be kept down within reasonable profits.

Government have started agricultural and horticultural gardens in various provinces and if properly approached there is no reason for Government to object starting plantations of indigenous drugs.

There are various experimental agricultural farms under the management of Government in the different provinces. With a little additional expense it can be arranged in these farms to cultivate indigenous drugs. It can be sold to public bodies and private individuals at reasonable profit and will pay to work out such a scheme. The Ayurvedic physicians can get genuine drugs at reasonable cost cultivated and collected scientifically with a view to avoid waste, not only sufficient to meet local demand but export with profit.

Now that both agricultural and medicine are included in the transferred list, the attention of the ministers of these departments in the various provinces is respectfully invited to the point under consideration.

Here is also a scope for four young unemployed university men to do good work not only for the country but for profit for themselves if they work out such farms on co-operative basis. Gentlemen of the Bhadralok

class can never be successful in the cultivation of ordinary food grains where there is keen competition with *bonafide* cultivators but special agriculture pays.

(3) The university of each province should encourage Ayurvedic teaching by starting *Ayurvedic Colleges* in each province and affiliating existing colleges and should grant *Ayurvedic degrees or diplomas* to increase the dignity and raise the average status of Ayurvedic practice. The curriculum should be carefully selected so that the best in Ayurveda and Allopathy are included.

Ayurvedic schools should be started in each division of a province to supply the very large number of qualified Vaidas for appointment in the district boards now that a scheme is on foot to open charitable Ayurvedic dispensaries at each police station of a district.

It will be unnecessary to add that to each such Ayurvedic school and college, there should be attached an outdoor dispensary and an indoor hospital. If these are arranged to be built in close proximity to the corresponding Allopathic school or college, there will be a good deal of mutual benefit to either system. The same teachers can teach the students of Ayurvedic schools subjects like anatomy, surgery, midwifery, etc., so that both class of students can attend the same lectures in common subjects, attend the same dissection room as well as surgery and midwifery clinic, can take advantage of the same anatomy and pathology museum. If the hospitals lie close together the teachers can interchange their ideas and a comparative statistics of the result of treatment of the same disease by each school can be compiled for mutual benefit. The nomenclature and classification of one school will be rendered intelligible to the other. In these and other various ways mutual benefits will be derived by such close intercourse between the two schools and much misunderstanding will clear up. *The working expense will be minimised by such joint arrangement.*

Text books on Ayurvedic subjects can be easily compiled from lecture notes of the teachers for the present.

Regarding the language in which Ayurveda will be taught to students is a very debatable point. So far as the college course is concerned, it is generally agreed that in the various Ayurvedic schools, the lectures will be given in the provincial vernacular.

Sanskrit was the common language of educated India in the good old days. Books on Ayurveda are written in Sanskrit. But in the present time it should be learnt almost like a foreign language. It takes a student a good many years to learn Sanskrit, which is now-a-days a dead language. It is waste of so much energy to the average student. Let it be reserved specially for research workers and not for practising Vaidas.

English is the common language of educated India at the present time. Every student learns English whatever profession or calling he adopts later on. The ideal status of Ayurveda is to make it international and it is on the whole probably better to teach college students of Ayurveda in English.

To keep Ayurveda alive and up-to-date, there should be free interchange of ideas, a free give and take between medical men of different schools not only in India but outside it. This is an additional reason to teach the higher Ayurvedic course in English.

(4) *A Central Ayurvedic Association with branches in each province* should be started to carry out the policy of the scheme and generally help with advice.

They should publish a pamphlet of *Ayurvedic drugs* as already noted, for the guidance of students in the botanical drug museum.

An Ayurvedic Medical Registration Act should be passed. The Ayurvedic Association should *keep a register of qualified Vaidas*, so that the public won't be fooled by quacks and charlatans passing for qualified Vaidas.

Every Ayurvedic practitioner in the beginning who had not passed from a recognised Ayurvedic institution, should be asked to appear before the provincial Association for examination with a view to qualify successful candidates and their names should be included in the registered list as qualified.

To each association will be attached a *text book committee* to translate Ayurvedic books in Vernacular and English so that it will be intelligible to the entire medical profession in India practising any system of medicine. A good deal of suspicion, distrust and misunderstanding that has arisen regarding Ayurveda will disappear. The scope of Ayurveda will not remain limited, sectarian or racial. It will stimulate comparative study to the mutual benefit of different schools. If comparative study is beneficial to every branch of learning, why it should not be followed by members of the healing art.

The text book committees will ransack public libraries and purchase hand-written manuscripts of Ayurvedic books from private libraries with a view to publishing them. Few books on Ayurveda are as yet printed or published, while a vast amount of literature is lying unpublished throughout the entire length and breadth of the peninsula or even outside it.

To each association will be attached a pharmaceutical society to collect drugs and compile a pharmacopoeia of Indian drugs and arrange for their re-investigation on modern lines. This has been already started in Calcutta and Madras, but organised work is necessary and different provinces should engage at least one worker, if not more, for

research work on drugs. The entire organisation should be worked on a regular plan. Thus the pharmaceutical section may ask each worker to tackle drugs of each group, so that there is no over-lapping of work by different workers.

Besides Chemical and Pharmaceutical investigation of drugs, clinical investigation should be undertaken in each Ayurvedic schools and colleges in collaboration with the laboratory worker. It is not enough to isolate the active principle, an alkaloid or glucoside and test its action neglecting the action of the rest of the drug. There may be more than one active principle which may at times be contradictory in action. Necessarily the action of the whole drug will differ from its active principle or principles. Laboratory work should aid and not supersede clinical work performed in the ideal laboratory, that of the human body. The clinical and laboratory worker should work in collaboration or the result becomes imperfect.

Further the importance of Ayurvedic prescriptions lie in their special combination. Such combinations only admit of clinical trial. A study of such combinations will reveal the rationale and principle of treatment involved and here is a very fertile field of investigation, for facts and ideas will come out of which Allopathy in these days of drug nihilism knows very little.

For example drugs like purgatives are often given in combination by Ayurvedists. If we can ascertain the action of each member of such groups, viz., the part of the intestine where it acts and the time taken by each to act, it will be found that such combination works out the entire intestinal tract in a harmonious way each helping the action of the other in co-ordination. Such combination will give the maximum benefit. Allopathy has yet to investigate their groups of drugs on these lines Homeopathy has done it so far as their drugs are concerned and hence their *materia medica* is so rich and so nicely differentiates the action of each member of a group of drugs. If the combinations are studied in the above light, much of the objections of combinations as shot-gun prescriptions will disappear.

Another thing in combination with drugs is to study the mode of preparation and purification with a view to simplicity without sacrifice of clinical efficiency. It may not be always desirable to prepare Ayurvedic drugs on modern lines with a view to simplicity without sacrificing the clinical benefit. For example liquid extract of Kalmegh is much inferior to fresh decoction. Makaradhwaj is more efficacious than sulphide of mercury (*Rasasindur*) though the former contains the same ingredients as the latter.

Until the Ayurvedic pharmacopœia is modernized, a provisional *pharmacopœia* should be drawn up by the pharmaceutical society attached to

the central association and detailed authoritative directions from Ayurvedic books should be given with a view to standardization of Ayurvedic drugs and combinations.

(5) There should be a *critical study of Ayurvedic books* with a view to publish an authoritative revised edition containing what is best and expunging what is bad in Ayurveda and incorporating what is wanting from other sources.

Every statement in Ayurveda should be re-investigated clinically for which purpose there should be a clinical research worker attached to each school or college, who will be medical man trained in the Western system, so that he can critically yet sympathetically judge the effect of Ayurvedic treatment of each disease. Much will depend on the selection of such men and for obvious reasons Indians will be preferred for such work. The man selected should be an enthusiast in the regeneration of Ayurveda and will interpret the ideas of each school to the other. The outlook will be wider and there will be much benefit resulting from such comparative study.

The central Association can distribute the work of critical research of each department of Ayurveda to individual provincial worker, so that there is no overlapping. For example a disease like Filaria and the result of Ayurvedic treatment will be better followed at Puri, goitre at Muzzafarpur, Kala-azar in Bengal and Assam, etc.

Until there is critical study of important Ayurvedic books, the research worker on drugs is much handicapped. For examples, several drugs are recommended for different fevers in Ayurveda as in Allopathy. Until this is known to the research worker he is handicapped and his results vitiated; thus Khetpapra is good in bilious group of fever (Pittaja fever) and in *Pitta* stage of fever. It will be useless in *Kapha* fever or *Kapha* stage of fever just as while quinine is good in malaria, it is useless in kala-azar and so on. The critical study of Ayurvedic books will prove useful in more ways than one or two spheres.

In this way, as Major Knowles has so nicely put it, "little by little, line upon line, the old Ayurveda will be modernized and rejuvenated and then it will not only be the national medicine of India but will play no small part in the uplift of the international medical system of the world."

The above is a bare outline to stimulate abler men (medical and otherwise) to earnestly consider the subject of rejuvenation of Ayurveda so that it will again attain that proud position it had in days gone by. This can be attained by a sincere and a close co-operation between the Government and the people.

Yours, etc.,

ASHUTOSH ROY, I.M.S.

ORIGINAL SANSKRIT WORKS

BY

MAHAMAHOPADHYAYA KAVIRAJ GANANATH SEN,
VIDYANIDHI SARASWATI, M.A., L.M.S.

PRATYAKSHA SHARIRAM

A Text-book of Human Anatomy in Sanskrit
written on Ayurvedic lines

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Science & Truth in Medicine.

Some people, particularly those that are interested in advancing rival interests, seem to labour under the impression that Ayurveda or Hindu Medicine is empirical and unscientific whilst their rival system of Western Medicine (that is to say, Allopathy, for Homeopathy though Western is not considered scientific!) was strictly scientific. Any sensible man who has studied with an unbiassed mind the contributions appearing in this Journal or has sufficient broadness of views to learn yet would not perhaps think in this wise. Gradually as terms like these come to be used widely, their meaning becomes vaguer and vauger until they are used to mean particular favourite objects (rather than their virtues) that the speaker has in view. Such indeed has been the case with the terms scientific and empirical, the former is being now widely used to imply the Western Allopathic system and the latter to qualify anything that is not included within the charmed circle of that system—particularly Indian Medicine.

All medicine, however, is empirical at the beginning and it is only in the case of a few drugs and modes of treatment that scientific explanations are offered at a later period of its clinical application. In fewer cases, some drugs and modes of treatment are found out by actual deduction from scientific data which naturally are favoured greatly by journalistic booms.

We shall make our meaning clear by a few examples. When Peruvian bark was found to be a specific for ague by laymen it came to be tried widely ; it was only very lately that its effect on the Malarial parasite was demonstrated—the parasite itself having come to be proved as the cause of Malaria only recently. Again the effects of Mercury and Arsenical compounds on Syphilis or of Ipecacuanha and Emetine on Amoebic Dysentery was ascertained only the other day (we have not forgotten the "Sine emelina" (!) days yet) and came to be known by empirical knowledge, a good deal of which remains empirical even to-day for it is yet difficult to understand how only a grain of Emetine in so many pounds of blood can produce such an effect on the dysenteric ailments. Of course the object of Science is to find out an explanation of empirical results and to give us definite and accurate knowledge but we must confess that till the present day only a share of it has come to our lot. With our best efforts Medicine yet remains occult to a large extent whilst Surgery is far more tangible. The findings of Medicine are indeed very different in exactitude and Medicine cannot yet be grouped with such Sciences as Physics, Chemistry or Mathematics. We shall not be far wrong if we say that as yet Medicine is science only by courtesy.

It must not be supposed however that we advocate occult Medicine. Once more we re-iterate that Ayurveda hates occultism and blind empiricism as much as any of its rivals or colleagues. But there is one great difference—the methods of Ayurveda and its ways of deductions are different. It has a theory—namely, the Tridosha or Tridhatu theory—which has a very wide application in explaining our observed physiological, pathological, pharmacological and therapeutical findings. It stands the Ayurvedists in good stead at every step. Only a glimpse of it has been given in the pages of this journal and we will present our readers shortly with more

and more of it in its practical aspects. We invite our readers to study this theory properly and fully and seek to prove or disprove it. Just as Endocrinology is now throwing new light on certain complex conditions, which Bacteriology failed to explain, the Tridosha theory in some form or other is bound some day to alter our views. That is our conviction based on very good reasons. Besides this theory which is almost a physiological axiom with Ayurvedists, there are varying other guiding principles of which observations and clinical experiences constantly corroborate the truth to us. As you cannot proceed without axioms and postulates with any exact science, so Medicine to be exact must have axioms and postulates. Such fixed axioms and postulates are few in western medicine—as theories are constantly changing. We don't blame the attitude of "open-to-conviction" research but the shakiness of the foundations is there all the same. Let us arrive at truth without bias or obsession. Truth after all is the monopoly neither of the East nor of the West. As humble seekers of knowledge let us not brag and vilify one another. Let us only work out our way like an army of sappers and miners clearing the weeds and shrubs and boulders that obscure our vision and prevent our onward march towards the final goal of truth.

Review and Notices of Books.

ASTANGA HRIDAY SAMHITA (*Bagbhata*) with a Tamil translation and notes :—By Ayurvedabhooshan Pandit Duraiswami Iyengar of Madras (vol. I and II) :—We acknowledge with thanks and appreciate this work highly. The author is a renowned Ayurvedic scholar who till lately was the general secretary of the All-India Ayurveda Vidyapitha and whose devotion to the cause of Ayurvedic advancement is well-known. He has certainly done a real service to such Ayurvedists of the Tamil Province of South

India as are unable to grasp the meaning of the ancient and Sanskrit work of Bagbhata in original. Being innocent of Tamil ourselves, we had to take the assistance of some learned Tamil-speaking pupils to examine the merits of this work and we are able to say that the rendering appears to be faithful and the annotations which unfortunately are few and far between, very useful. The section on Anatomy is a helpful addition and the nomenclature adopted is mostly that of Pratyakshashriram (Mahamahopadhyaya Gananath Sen's Sanskrit work on Anatomy). The introduction is also highly instructive though we are unable to agree with the opinion and the reasoning supporting it that Bagbhata of Ashtanga Samgraha and Ashtanga Hriday is the same as the author of Rasaratna Samuchchaya. The rendering of Ojas (ओजस्) by Albumen is also questionable as Ojas clearly refers to an internal secretion connected with the heart or cardiac ganglia according to Ayurvedic literature. The illustrations of the surgical instruments are also mere meaningless copies of those given in the old Jivananda's Edition of Sushruta and long ago proved to be utterly wild and erroneous. The fact is that most of the modern surgical instruments are clear replicas of the instruments described in very clear terms by Sushruta and Bagbhata (Vide articles on this subject by Mahamahopadhyaya Gananath Sen in the *Indian Medical Record*, 1914). We also regret that the last section (उत्तरस्थानम्) has not been translated yet, but we hope the author will soon complete the work. When completed and well annotated, the work will be a very valuable addition to modern vernacular literature of Ayurveda.

SHARNGADHAR SAMHITA—in Tamil by the same author. This nicely annotated and well-translated ancient work of Sharngadhara would prove very useful to students and practitioners of South India and we heartily congratulate the author on the success of this work. Certainly more care has been bestowed on this work by the author and the handy book deserves to be an excellent Vade mecum of Ayurvedic medicine. We are confident both students and practitioners of the Tamil country would feel highly grateful to the learned Pandit for this literary gift to them.

Original Articles.

THE NADI SYSTEM IN AYURVEDIC MEDICINE, UPANISHADS AND TANTRIC LITERATURE

BY

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II

In some treatises on Sphygmology the *nadis* have been divided into *siras* and *dhamanis*. Leaving aside these accounts for the present, we consider the descriptions we find in general literature (particularly the Tantras) as well as in the treatises on Sphygmology.

1. *Number of nadis.* In most of the works we find an approximate counting of the total number of *nadis* and the enumeration of the few principal *nadis* severally.

Taking the total number of *nadis* in the human body, we find a great difference of opinion amongst the various authorities.

(a) We find the highest number in Prasnopanishad (see the text in connection with the origin of *nadis*). If we can interpret the text correctly (as there is a little ambiguity in it), we find there are altogether $100 \times 100 \times 72,000$ *nadis* in the body. Thus the total number comes up to 720,000,000.

(b) The number of *nadis* is stated to be 35,000,000 in a few treatises, as in Gautamiya Tantra (quoted in Tantrasara).

तिस्त्रकोट्रस्तद्वेन ग्राहे नाभयो मताः ।

We get the same number in Rudrajamala.

**तिस्त्रकोट्रद्विकाटिच यानि नोमानि मानुषे ।
नाडी सुखानि सर्वानि घर्मविन्दुं ज्ञरन्ति च ॥**

There are 35,000,000 hairs on the body of man and there are as many terminal openings of the *nadis* which serve to excrete sweat.

(c) According to Sivasamhita there are 350,000 *nadis* in the body; of these fourteen are the principal ones.

**सार्वलक्ष्यतयं नाभ्य सन्ति दोहान्तरे नृणां ।
प्रधानभूता नाभ्यसु तासु मूर्खास्तु दंग ॥**

This number is also given in Nadijnana in Bengalee :—

(II. 9.) सार्वविकोटौ ताहे तिन प्रधान ।

देखिवे शुनिवे आर करिवे अनुमान ॥

(d) Again in Saradatilaka, we find the *nadis* are more than 300,000 in number and of these 50,000 are considered as the main *nadis* (see the text above).

(e) In Agneya (quoted in Nadiprabodham [II. 36]), we find the number given to be 300,000 ; of these, 56,000 *nadis* are said to be *siras*.

तिंश्चक्षुतसहस्राणि तथा नार्डाणि चैव हि ।

षट्पञ्चाशत् सहस्राणि शिराणां कथितानितु ॥

(f) According to most authorities, the *nadis* are 72,000 in number.

द्विसप्तिसहस्राणि नाड्यः प्रोक्ताः महर्षिभिः ।

Nadibijnaniya (II. 6)

द्वासप्तिसहस्राणि हृदयादभिनिःस्ता ।

इताहितानामनाड्यास्तासां मध्ये गणिप्रभं ॥

Yagmabalkasamhita.

According to Yagmabalka the 72000 *nadis* arise from the heart ; they are known as *hitahita* and there is an area in this place resembling the moon. In this connection we may cite another passage from the same treatise as well as another from Vishnusamhita, where we find the *siras*, *dhamanis* and *snayus* considered as different structures.

शिरागतानि सप्तैव नव स्त्रायु शतानि च ।

धमनीनां शते द्वे च पेशी पञ्चशतानि च ॥

एकोनतिंश्चक्षुताणि तथा नवशतानि च ।

षट्पञ्चाशत् जानियात् शिराध्भनिसंज्ञिताः ॥

Yagmabalkasamhita.

There are 700 *Siras*, 900 *Snayus*, 200 *Dhamanis* and 500 *Peshis* (muscles). The *siras* and *dhamanis* are altogether 2900956 in number. We should also note that the same treatise separates the *nadi* from these structures.

गरोरेभिन् सप्तशिरागतानि । नवस्त्रायुशतानि । धमनी शते द्वे ।
पञ्चपेशीशतानि । कुद्रध्भनीनामेकोनतिंश्चक्षुताणि नवशतानि षट्पञ्च-
शतासन्यः ।

Vishnupurana.

There are, in this body, 700 *siras*, 900 *snayus*, 200 *dhamanis* and 500 muscles. There are 2900956 *dhamanis* which are called *kshudra dhamanis*.

It is impossible to interpret the terms used here in the light of modern Anatomy.

The same number, namely 72000, is assigned to *nadis* in several treatises on sphygmology, (1) *Nadyuttpatti* (II. 47), (2) *Nadipariksha* (II. 26), (3) *Nadishastrasamgraha* (II. 40), (4) *Nadinidanam* (I. 4), and (5) *Nadichakrabidhi*.

(1) द्विसप्ति सहस्राणि नाडिका वपुषि स्थिताः ।

तिर्यगूर्ढ्मध्यश्चैव व्यापानोडासु षोड़ग्नाः ॥

(2) ऊर्ध्वांशे प्रदधो नाभे कन्दो यत्र अवस्थिताः ।

तद्वाडया समुत्पन्ना सहस्राणां द्विसप्ति ॥

(3) द्विसप्ति सहस्राणि नाडिका वपुषि स्थिताः ।

तिर्यगूर्ढ्मध्यश्चैव व्यापासाभिश्च सर्वतः ॥

(A similar passage also in I. 4. in another place.)

(4) द्विसप्ति सहस्राणि नाडो मुखान्तु षोडग्नाः ।

द्विसप्ति सहस्राणि गिरा स्फूलं यथाक्रमं ।

(another place)

The same number is assigned to *nadis* in *Nadibijnaniya* (II. 6) in which the *nadis* have been classified into male, female and neuter.

त्रिशंतसहस्र स्त्रीनाडो पुं नाडोपि तथैवत् ।

महसूं द्वादशगिरां स्त्रीवासु स्त्रिविधा मताः ॥

वासभागे स्त्रिय प्रोक्ता पुं नाडो दक्षिणे तथा ।

मध्ये स्त्रीविशिरा ह्येताः द्विसप्ति सहस्रकं ॥

There are 30,000 male, and 30,000 female *nadis* and 12,000 neuter *nadis*. The *nadis* on the left side are called female, those on the right side are called male and those in the middle (trunk ?) are called neuter. Thus there are altogether 72,000 *nadis*.

We now study the *number of the principal nadis* which have been distinctly and severally enumerated according to the various works.

(1) The highest number of *nadis* is given in *Nadishastrasamgraha* (II. 46). They are twenty.

सुषुम्ना पिङ्गला इडा रौद्री रञ्जु विंदारिका ।
 विश्वोदरी च गाम्यारौ ग्रह्णिनीच यशस्विनी ॥
 मरस्वतौ हस्तिजिह्वा वारुणी च पयस्विनी ।
 चित्रिनी पद्मिनी चैव कुइ पृष्ठा द्व्यलंबुमा ॥
 दामनी मन्दरा नाडी त्रद्विष्णु समाख्यका ।
 बज्रनाडी ग्रक्तिनाडी तापसाख्या च नाडिका ॥

The (1) *Sushumna*, (2) *Pingala* and (3) *Ida* are *Raudri* nadi; they perforate the back-bone. The (4) *Biswodari*, (5) *Gandhari*, (6) *Sankhini*, (7) *Yasaswini*, (8) *Saraswati*, (9) *Hastijihba*, (10) *Varuni*, (11) *Payaswani*, (12) *Chitrini*, (13) *Padmini*, (14) *Kuhu*, (15) *Pusha*, (16) *Alambusha*, (17) *Damani*, (18) *Mandara* are *Brahma* and *Vishnu* nadi. The (19) *Bajra* and (20) *Sakti* nadi are called *Tapasa* nadi.

(II) In two treatises on sphygmology, the last one, *Gadasanjibani* (1. 3.) *Nadibijnana* [1. 4] and in *Brahmabaibartapurana* (*Brahmakhanda*) we find sixteen principal *nadi*s enumerated.

According to the treatises on sphygmology we have—
 (1) *Sushumna*, (2) *Pingala* and (3) *Ida* (the three placed in connection with the back bone), (4) *Biswodari*, (5) *Gandhari*, (6) *Sankhini*, (7) *Yasaswini*, (8) *Saraswati* (9) *Hastijihba*, (10) *Baruni*, (11) *Payaswini*, (12) *Padmini*, (13) *Chitrini*, (14) *Kuhu*, (15) *Pusha* and (16) *Alambusha*.

They are different in *Brahmabaibartapurana*.

इडा सुषुम्ना मेध्याच्च पिङ्गला प्राणधारिणा ।
 मर्वज्ञानप्रदाच्चैव मनः-संयमनी तथा ॥
 विश्वज्ञाच्च निरुद्धाच्च वायुसञ्चारिणो तथा ॥
 तेजशुष्ककरीच्चैव वज्रपुष्टिकरौ तथा ॥
 वृद्धिसञ्चारिणोच्चैव ज्ञानजृभनकारिणो ।
 मर्वप्राणहराच्चैव पुनर्जीवनकारिणो ॥
 एता षोडशधा नाडीभित्वा च हृममेवत्ते ।
 मनसा सहितं त्रद्विष्णुमनीययोगतः ॥

The nadi mentioned here are (1) *Ida*, (2) *Pingala*, (3) *Sushumna*, (4) *Medhya*, (5) *Pranadharini*, (6) *Sarbjyanaprodha*, (7) *Manas-sanjyamani* (8) *Bisuddha*, (9) *Niruddha*, (10) *Vayusancharini*, (11) *Tejasushkakari*, (12) *Balapustikari*, (13) *Buddhisancharini*.

(14) *Jnanajrimbhanakarini*, (15) *Sarba pranahara*, (16) *Tunar-jibananakarini*.

This interesting passage requires some observations. First, the *nadis* enumerated are all named after their functions, with the exceptions of *ida*, *pingala* and *sushumna*. Secondly, with the exception of these three *nadis*, the others are nowhere found mentioned. Thirdly, it is very difficult to interpret most of them in the light of modern anatomy and physiology.

Leaving off the three *nadis* which occur practically everywhere, we consider the others in some details. The *medhya nadi* literally means one fit for sacrifice or very strong. It may refer to the medulla oblongata, being placed above the spinal cord at the upper end of the neck (the region suitable for sacrifice) and also mentioned immediately after the *sushumna* in the text. The *pranadharini nadi* literally meaning supporter of life, may perhaps refer to the arteries, which indicate life by their pulsation. The *sarbajnana-prada nadi*, literally meaning 'giver of all kinds of senses', perhaps refers to the sense-organs, the function being taken to be carried on by a *nadi*. The *manas-samjamani nadi* literally indicates one concerned in the controlling of the mind. It is highly probable that the brain (*sahasrar*) might have been meant and considered as a *nadi*. The *bisuddha nadi*, literally indicating one concerned in the purification of the body, may mean the entire system of trachea, bronchia and their branches, as it might have been recognized that the air is being drawn into these tubes in inspiration and hence it helps in purifying the body. The *niruddha nadi* may literally mean one confined to some places or one concerned in the stopping of respiration, that is, in holding the breath, so much practised by the sages. In the former case, it may mean ligamentous cords; but in the latter sense it should be an hypothetical *nadi* concerned in the holding of breath. The *vayusancharini*, literally meaning one concerned in the distribution of *vayu*, perhaps indicates the arteries again in a different sense from that in the *pranadharini nadi*. It is not probable that nerves could have been distinguished from arteries from the functional point of view as carriers of nerve impulses. The *tejasuskari nadi* meaning one concerned in the dissipation of energy, indicates an imaginary *nadi* having that particular function. The structures really concerned could not have been properly meant. The *bilap ishtikari nadi*, which means one concerned in the nutrition and invigoration of the body, perhaps means alimentary canal. The *vuddhisancharini nadi*, literally

meaning one concerned in the production of intellect, problematically indicates the higher psychic centres of the brain. The *jnanajrim-bhanakarini nadi*, meaning one concerned in the consciousness of yawning, again indicates a hypothetical nadi connected with the function. The *sarbaprana-hara nadi*, indicating literally one which takes away or inhibits all the life functions, is a functional entity which cannot be represented by such a distinct single structure. The *punarjibana-karini*, meaning one concerned in the revival of the life functions, indicates a similar functional entity to the last one. These two nadis are probably to be taken in connection with the peculiar subconsciousness (*samadhi*) practised by the sages and the return to consciousness after the period. They are no doubt connected with (voluntary?) inhibition of and return to the normal reflex actions of the body.

(III) There are fourteen *nadis* enumerated in Sivasamhita, Nadishastrsamgraha (II 46), Nadiehakravidhi, Nadibijnana (II. 5), and Nadinidana (I. 4). These are as follows :— (1) Sushumna, (2) ida, (3) pingala, (4) gandhari, (5) hastijihba, (6) kuhu, (7) saraswati, (8) pusha, (9) sankhani, (10) payaswini, (11) varuni, (12) alambusha, (13) viswodari and (14) yasawini.

In Sivasamhita, it is distinctly noted that, of these, *pingala*, *ida* and *sushumna* are the principal *nadis*; again, of these three, *sushumna* is the primary nadi, all the nadis of the body arise from this (*sushumna*).

एतासु तिस्रीमुख्याः स्यः पिङ्गलेडासुषुभिका ।
तिमूष्वेका मुषुम्बैव मुख्या सा योगवद्विभा ॥
सन्यास्तदाश्रयं क्ल्वा नाड्यः सन्ति हि देहिणां ॥

Sivasamhita.

In both Nadishastrsamgrahā, Nadibijnana and Nadiehkravidhi, we have the same note regarding the *susumna*, *ida* and *pingala*, the first one being referred to as a *brahma-nadi*.

(१) तासां मुख्यतमा स्तिसः आद्यास्तास्पिचार्थ्यया ।
मुख्येका ब्रह्मनाडीत तमाहवेदवादिनः ॥

There are also fourteen nadis enumerated in Varahopanishad, but differently. The work gives short notes on their distribution. We quote the passage below :—

वृद्धरन्धैशुभुज्ञा या वदनेनपिधायसा ।
अलम्बुसा सुषुम्नायाः कुरुनाड वसन्यसौ ॥

अनन्तराययुग्मेतु वारुणा च यश्चिनी ।
 दक्षिणारे सुषुम्नायाः पिङ्गला वर्तते क्रमात् ॥
 तदन्तरारयोः पूषा वर्तते च पयस्त्रिनी ।
 सुषुम्नपश्चिमे द्वारे स्थिता नाडौ सरस्तती ॥
 शङ्खिनी चैव गाधारी तदनन्तरयोः स्थिते ।
 उत्तरेतु सुषुम्नाया इडाखणा निवसन्यसौ ॥
 अनन्तरं हस्तिजिह्वा ततो विश्वोदरी स्थिता ।
 प्रदक्षिणक्रमेनैव चक्रस्यारेषु नाडयः ॥
 वर्तन्ते द्वादश ह्येता द्वादशानिलवाहकाः ।
 पठवत् संस्थिता नाड्यो नानावर्णाः समौरिताः ॥
 पठमध्यं तु यत् स्थानं नाडीचक्रं तदुच्यते ।
 नाढाधारा समाख्याता ज्वलन्ती नाढरूपिणी ॥
 परव्रह्मा सुषुम्ना च चत्वारोरन्तपूरिताः ।
 कुण्डल्या पिहितं शखद् ब्रह्मरक्ष्य स्थ मध्यमं ॥

The *nadis* enumerated here are—(1) *sushumna*, (2) *alambusha*, (3) *kuhu*, (4) *baruna*, (5) *yasaswini*, (6) *pingala*, (7) *pusha*, (8) *payaswini*, (9) *saraswati*, (10) *sankhini*, (11) *gandhari*, (12) *ida*, (13) *hastijihba* and (14) *biswodari*.

The treatise notes the relative position of the various *nadis*. The *nadis* have been apparently divided into two groups, the first two *nadis* in one group and the last twelve in another. The *nadis* of the latter group have been spoken of as carriers of twelve *vayus* and as situated round the *nadichakra* as spokes. Perhaps the nerve plexuses are taken as annule in the treatise. The *sushumna* is said to surround the *brahmarandhra* by its apex (mouth). It is difficult to understand why *sushumna* have been excluded from the others with regard to origin and function. Probably the *sushumna* is considered to be quite outside the nerve plexuses as evidently the nerve plexuses (*nadichakras*) are formed from the *sushumna* rather than *sushumna* arising from the nerve plexuses. Regarding *alambusha* one may think that if it be taken to be a cranial nerve then it is also not connected with the nerve plexuses as recognized by these authorities. It is however very difficult to say anything definitely in this matter. We shall come back to them when we shall take up their distributions.

(IV) Only twelve *nadis* are enumerated in *Yogasikhopanishad* (Chapter V), with short notes on distribution.

तन्नाभिचक्रमित्युक्तं कुक्षटाण्डमिव स्थितं ।
 गान्धारी हस्तिजिह्वा च तस्मिन्नेतदयं गते ॥
 पूषाचालम्बुसा चैव श्रोतउपसुपागते ।
 शुरा नाम महानाडौ तस्माद् भूमध्यमार्शिता ॥
 विश्वोदरौ तु या नाडौ मा भुड्केऽन्नं चतुर्विधं ।
 सरस्वतौ तु या नाडौ सा जिह्वान्तं प्रसर्पति ॥
 वाकाह्वया तु या नाडौ पौत्रा च सलिलंकणात् ।
 कृतमुपोदयेद् ब्राणि स्नेहाणां सञ्चिनोति च ॥
 कगठकूपोद्भवा नाडौ जङ्घन्याख्यात्वधोमुखा ।
 अन्नसारं समादाय सूभिं संचित्वने भदा ॥
 नाभेरधोगतस्तिस्त्रो नाडयः स्युरधोमुखाः ।
 मलं त्यजेत् कुहर्नाडौ इत्वं सुञ्जति बारुणी ॥
 चित्राख्या सोवनौ नाडौ शुक्ल मोचनकारिणौ ।

The *nadis* enumerated in the passage are (1) *gandhari*, (2) *hastijihba*, (3) *pusha*, (4) *alambusa*, (5) *sura*, (6) *biswodari*, (7) *saraswati*, (8) *bakahbaya*, (9) *sankhini*, (10) *kuhu*, (11) *baruni* and (12) *chitra*. These will be dealt with later on.

(V) We find the names of eleven *nadis* given in *Vaidyashastra* (I. 4). They are as follows:—(1) *padmini*, (2) *chitrini*, (3) *sankhini*, (4) *bharati*, (5) *biswodari*, (6) *gandhari*, (7) *pingala*, (8) *sushumna*, (9) *pusha*, (10) *ida* and (11) *hastijihba*, (see the text in connection with distribution).

(To be continued).

A BRIEF HISTORY AND OUTLINES OF AYURVEDA

BY

MAHAMAHOPADHYAYA KAVIRAJ

GANANATH SEN, SARASWATI, M. A., L. M. S.

(Continued from our last issue).

A Sanskrit work known as "Banga Sen", printed in Bombay is now available and is probably a Sanskrit edition of the original Tamil work of the Sage *Agastya*, as the author, a Bengalee scholar of several hundred years ago, clearly mentions his work to be a revised edition of the ancient *Agastya Samhita*.

In South India, Ayurveda seems to have been studied and practised by two different schools known as "Barh Sampradaya" and "Then Sampradaya". The former wrote their works in Sanskrit while the latter in one or other of the four main Dravidian languages : Telegu, Tamil, Canarese and Malayalam. Of these the Tamil works claim an independent origin. Other sages known as *Pulastya*, *Pyunhamuui*, *Pulippani*, *Baikhari Musu*, *Bibhandak*, *Devendramuni*, etc., also wrote comprehensive works many of which are still available along with five or six works of *Agastya*. In Cochin and Travancore which I had the privilege to visit on two occasions, Ayurvedic works in Sanskrit as well as in a mixed language known as *Mani-Pruval Bhasha*, are available in printed form though, the script being Malayali, they are sealed books to scholars of other parts of India. I have got some of these works transcribed by my South Indian pupils and these when printed ought to add to our knowledge in many subjects, especially in Toxicology.

III. THE PERIOD OF THE SIDDHAS OR CHEMIST PHYSICIANS.

(or the Period of Chemical Research).

After the period of specialization mentioned above and most probably during the early Buddhistic period of Indian History came another School known as the School of the Siddhas or

Chemist-physicians. They discovered and used numerous mineral preparations such as the compounding of Iron, Mercury, Zinc, Tin etc., their chief sheet anchor being Mercury. These minerals had been very sparingly used before and were left almost unexplored till their time in Medicine. The names of the exponents of this School are a legion and are to be found in the vast number of works written by them. A large number of their works both in Sanskrit and Tamil are still available in printed form but quite as many or more of their works yet remain in manuscript—some of which have been unearthed by Sir P. C. Roy in his History of "Hindu Chemistry". In the upper or northern half of India as well as in Bengal, their works and methods were widely incorporated in and are yet inseparably connected with the Ayurvedic literature and practice of the present day. In South India, the 'Siddha' System developed as quite a separate school known as the 'Siddha' School. They claim their origin from ancient Tamil culture (from Agastya ?) and stand to this day as a rival System of Hindu Medicine. Even now, the renowned Ayurvedic physicians of the Malabar coast, however, have not accepted their methods and they practise Ayurveda in its original form. For a list of the Tamil works, vide Appendix IX. of the Report of the Madras Ayurvedic Committee published by the Government of Madras.

IV. THE PERIOD OF DECAY AND COMPILATIONS.

After the advent and rise of the School of Chemist Physicians and during the period of the invasions of India by the Scythians, Greeks and Mahomedans successively, few original works were or could be written. Dissection of the human body which had been in vogue from very early times was stopped by an edict of Ashoka. Talented authors of Ayurveda like Bagbhata, Sharngadhar, etc. came in during this period. Of these, Bagbhata devoted himself solely to the collection of the fast decaying old works of authority and incorporated into his own compilations the substances of all ancient Samhitas that he could find out in his time (about 600 A. D.). These compilations were known as *Astanga Samgraha* (the collection of the eight special subjects) and *Astanga Hridays* (the same abridged.) He did the greatest service to Ayurveda. Sharngadhar, a late author of Northern India followed the footsteps of Bagbhata and wrote a similar but smaller work on the same principles.

In Bengal and Kanauj, *Chakrapani* and *Bhavamisra* respectively were the last great champions of this period. Their valuable works are known respectively as *Chakradatta* (treatise on treatment) and *Bhava-prakasha* (an Encyclopedic work of Ayurveda comparable to Bagbhata's works). The author of the former work flourished about eight hundred years ago on his own admission. The author of the latter work flourished in the sixteenth century and tried to bring Ayurvedic practice up to date by incorporating into Ayurvedic practice the valuable drugs of the Siddha and Unani systems which were flourishing side by side in his time. In Southern India, writers like *Vasava-raja* and the anonymous author of *Yogaratnakar* worked on similar lines and produced valuable compilations. These and many other works are current at the present day. There are others of less importance which are too numerous to mention here. A list of most of these works will be found in the introduction of my Bengali work—"Ayurveda Samhita".

THE PROGRESS AND DEVELOPMENT.

The progress and development of Ayurveda during the last two thousand and five hundred years is a very interesting study. It was during the early part of this period that Ayurvedic Medicine made its way into Egypt and Arabia, unquestionable evidence of which have been given by Al. Beruni, Rhazes and other Arabic authors. But of this we shall speak later on. Let us now briefly consider the progress in the different subjects seriatim :—

(A) • ANATOMY :—Even 2000 years ago, the necessity of the dissection of the human body was clearly understood. Says Sushruta :—

"Therefore one must prepare a corpse and see by careful dissection every part of the body so as to get a clear and definite knowledge of the body which must be devoid of doubts" (Sushruta, Sharira, Ch. VI). Charaka also thinks: "One who understands the human body thoroughly in all aspects may be considered to have mastered Ayurveda" (Charaka, Vimana, Ch. VI).

In this connection it may be worth while to note that in the Tanjore palace Library there is yet a remarkable specimen of human skeleton in ivory showing that 200 years ago, when the

very touch of human bones had come to be considered profane and polluting, even kings had not ceased to take interest in the study of Anatomy. In the ancient medical works of Sushruta and Bagbhata not only discourses on Anatomy but also directions for major and minor surgical operations, such as Amputation of limbs, Embryotomy, Caesarian Section, operations on the intestines, Lithotomy, and various plastic operations are yet to be found showing that the Anatomical knowledge which this presupposes could not have been of a mean order. Numerous quotations of descriptive Anatomy from an ancient work of Surgery called *Bhoj Samhita* (an ancient work of the Surgeon's School) occur in commentaries current to the present day. As Dr. Hoernle has very aptly remarked, "Probably it will come as a surprise to many, as it did to myself, to discover the amount of the earliest medical writers of India. Its extent and accuracy are surprising, when we allow for their early age—probably the sixth century before Christ—and their peculiar methods of definition". (*Hoernle's Medicine of Ancient India, Part I, Preface*).

Even recently a work on Anatomy called *Sharira Padmini* written about 1,000 A. D. has been unearthed by Dr. P. Cordier (Vide Dr. Cordier's *Recentes Decouvertes P 30*) and quoted from extensively by Dr. Hoernle in his valuable work—studies in the MEDICINE OF ANCIENT INDIA. Other works on Anatomy called *Sarira Shastra* and *Sharira Vaidyaka* are also mentioned in Aufrecht's Catalogue.

(B) PHYSIOLOGY :—The elements of Physiology as for instance the salient facts of Digestion, General Metabolism, Secretions and Excretions, etc., appear to have been fairly comprehended by Ayurvedic writers. Circulation of blood appears also to have been comprehended fairly well in the ages of Sushruta and Charaka. Charaka says :

"From that great centre, the heart emanate the vessels carrying blood into all parts of the body, the element which nourishes the tissues and sustains the life of all animals. It is the element which after circulating in the body of the foetus returns to the mother's heart." (Charaka, Sutra, Ch. 30). The fact that the blood derived its colouring matter from the spleen is also distinctly mentioned by Sushruta.

The most important theory of the ancient Physiology however is the *Tridhatu* or *Tridosha* Theory, which has been wrongly.

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translated by some as the Humoral Theory, confounding it with the Humoral Theory of the Greeks. On the foundation of this theory the whole structure of Ayurvedic Physiology, Pathology, Materia Medica, Medicine and Surgery may be said to stand. A brief exposition of this theory has been already given (July 1925.) and it will be found that considered in the light of the modern Sciences and explained on the strength of existing texts there is nothing in it incompatible with modern Physiology. To every practitioner of Ayurveda, the theory has a very important practical aspect as it has a wide application of the line of treatment. The very success of the treatment of the disease based on the theory proves the soundness of the theory to the Ayurvedist.

(C) CHEMISTRY AND BOTANY :—The advance in applied Chemistry made by the exponents of Rasa-Shastra, the school of Chemist-physicians appear to be considerable. Dr. P. C. Roy has dealt with this subject somewhat extensively in his work, "History of Hindu Chemistry". The various compounds of Mercury and their therapeutic uses were discovered by these chemist physicians. The other common metals and various chemicals were also known and used extensively, various processes of their reduction into Oxides, Sulphides, etc., recommended by the "Chemist-physicians" are still in vogue amongst Ayurvedic physicians who use these preparations widely and effectively in Medicine.

(D) In Botany, particularly the practical side of it, some records are available in the writings of Raghava-Bhatta, Sharngadhar and others. Other records occur in Puranas like Agnipurana, Garudapurana etc. Plants have been called "Sthavara Jeeva" or stationery animals* conscious of pleasure and pain. This feature of plant life has been now proved by actual experiments by Sir J. C. Bose, F. R. S. A regular Sympomatology and Treatment of plant-diseases was also known as "Vriksha Ayurveda" and some part of it still survives in the writings referred to above.

In books known as Dravyaguna, the properties of drugs and food-stuffs are found described by a terminology the meaning of which properly understood does not fail in most instances to give a correct insight into their Pharmacology and Therapeutics, mainly from the Tridoshic point of view. Unfortunately, however this terminology has yet remained a sealed book to those who have judged it from inaccurate translation.

(E) In Pharmacy, the art by which the properties of a drug or drugs are imbued in spirits (as in Asavas and Aristas), in Ghees, Oils, Syrups, etc., was well-known. Of Mercury and other minerals such as Iron, Zinc, Tin, Mica, etc., preparations easily assimilable by the human system are still made and used by the Ayurvedic physicians. For instance, Mercury when combined with sulphur as in the Black sulphide or Red-sulphide, seldom produces mercurialism. The well-known preparation "Makaradhwaja" has been used by eminent and western physicians like Sir Perdey Lukis with good result and many other Sulphides are also used with important results.

(F) MEDICINE :—In the practices of Medicine proper diagnosis was always insisted upon before treatment. The diagnostic methods employed by the ancients were the same as the methods employed in the west even half-a-century ago. All the five senses (except the tongue—according to Charaka) were employed for diagnostic purposes. Various forms of speculua were also used to aid the senses but great stress was laid on the art of using the unaided senses to the best advantage. The pulse was a special study—though at a later period. Many works were written on this subject and very great importance was attached to the speed, rythm, volume and compressibility of the pulse for determining the state of the three cardinal principles of Ayurveda (Vayu, Pitta and Kapha) and the "Samata" (auto-intoxication) which according to the Ayurvedist manifests itself in the pulse. Even now, every Ayurvedic physician worthy of the title is expected to understand this subject thoroughly. The examination of the urine, particularly the determination of its physical characters and specific gravity was done by simple methods and considered necessary in most cases. The infectious nature—even the bacterial origin of certain diseases appears to have been understood. Such diseases as "the various fevers, Leprosy and Skin diseases, Tuberculosis, conjunctivitis, and various other dsseases that come in epidemic form like Cholera, Plague, etc., are separately dealt with. It is remarkable that although no mention of the microscope or similar magnifying instrument is found, some organisms "invisible to the naked eye" are found described by the ancients.

The principles of treatment recommended in Ayurvedic works however are based mainly on the *Tridosha Theory*, the sine qua non of proper treatment being of course clear understanding of the pathology based on this theory—though the organic changes were also taken into account. The physician is enjoined to determine "the cause and the seat of the disease, the meaning of the symptoms, the age and habit and the temparament of the patient and the season of the year he begins the treatment". (A brief note on the principles and methods of treatment will be found in the next chapter).

(To be continued.)

KRIMIS IN AYURVEDA

BY

ASHUTOSH ROY, L. M. S., Hazaribagh.

The *krimis* are the parasites, both microscopic and macroscopic that infest human beings and are divided into two groups :—

- (1) Bajhya-krimi or Ecto parasites or Epizoa are found outside the body, as they affect the skin and exterior of the host.
- (2) Abhyantar-krimi or Endo parasites or Entozoa are found inside the body, as they affect the internal organs and cavities of the host.

The latter are divided in Ayurveda into three groups :—

- (a) Raktagata or those found in the blood.
- (b) Amasayastha or those found in the small intestines.
- (c) Pakkasayastha or those found in the large intestines.

ETIOLOGY.

Krimis are found wherever the waste products of metabolism are retained e.g. filth in the skin, filth in the blood, mucous in the small intestine, faecal matter in the large intestine. These various forms of filth serve as ready made food for them. They are therefore often attracted to make those regions their home.

1. *In the skin*—the krimis are attracted due to filth on the surface of the body, specially the hairy parts, where the perspiration is mixed with other waste products and dry up, matting the hair, where the worms, like lice, make their home.

The filth not only attracts the macro-parasites like the lice, but also several micro-parasites which produce several varieties of Skin disease e.g. itches, boils, enlargement of the superficial lymph glands &c., &c.

2. *In the blood*—the krimis are attracted there due to accumulation of filth (waste products of tissue metabolism, when not excreted out of the system by the excretory organs).

Seven kinds of blood parasites are described in Ayurveda, making their habitat in the blood. Some of these are said to be so fine as cannot be distinguished by the naked eye (micro-parasites of modern medicine, vegetable and animal). Others are of course bigger

and are described as of various colours, or white and glossy (similar description as far as colour is concerned we find in modern medicine).

The blood parasites cause various diseases due to derangement of the blood e.g. pustules, Erysepalous, pigmentations and stains, Alopecia, enlarged spleen, abscesses, enlarged abdominal glands, various skin diseases and Leprosy. (This shows that some of the blood parasites correspond to the micro-parasites of modern medicine).

Some of these parasites are described as males and some females. (Analogy in modern medicine we find in filaria, some of which are males and some females.)

Sushrut describes three special kinds of blood parasites, e.g.,

- (1) *Nakhada*—destroys nails and causes onychia,
- (2) *Dantada*—destroys teeth and produce caries,
- (3) *Kikisa*—the parasite of Leprosy.

These diseases according to modern medicine are not caused by macro but micro-parasites, directly or indirectly.

The derangement of blood is produced by partaking of some vegetables (which harbour the parasites) by gormandizing when there is indigestion or by taking incompatible foods in combination.

Modern medicine has noted that some drugs taken together are incompatible. That some food taken together are incompatible and upset the digestion is noted in Ayurveda but the idea seems to be absent in modern medicine. An entire chapter in Ayurveda is devoted to these incompatible food combinations.

3. *In the small intestines*—The Krimis are attracted where there is an accumulation of mucus.

Six kinds of parasites are described as to be found in that region:—some are large like earthworm (e.g. round worm or Ascaris); some are curved like paddy sprouts (e.g. Hook worm or anchylostoma); some have hairs (are ciliated to anchor than to other parts); some are flat (e.g. Tapeworms or Taenia); some are described as having the power to travel over various regions of the body producing different symptoms in those organs (e.g. the flukes or distomas which travel to Liver, Lung and even the brain).

These parasites are found after partaking of such food as will produce mucous in excess in the small intestines e.g. taking excess

of fish, meat and treacle, milk condensed by heating (khira), excess of sweets and acids and liquid foods, gormandizing with indolent habits e.g. sleep at the daytime, taking incompatible food combination for some time.

These produce various indefinite symptoms like nausea, anorexia, pyrosis, indigestion, vomiting fits, fever, gastro-intestinal colic, anuria, constipation, coryza, loss of weight, paleuen, jaundice etc.

4. *In the large intestines*—the krimies are attracted when there is accumulation of faeces due to constipation.

Seven kinds of parasites are described as inhabiting this region—some are white and attenuated, frequenting the rectum, where they produce an itchy sensation (e.g. thread worms). Several are thicker and have tails. Some are reddish in colour and produce cutting pains locally, as also rumbling in the abdomen, indigestion and loose stools.

These macro parasites are found after taking such food as will produce constipation and accumulation of feces which are not properly evacuated e.g. by taking excess of 'mash kalai' (Thaseotes Roxburghi) cakes, excess of acid, salty and sweet articles of diet, excess of liquid food, certain vegetables (pot herbs), incompatible food combination for some time.

These produce symptoms like cramps, dullness of appetite, yellow complexion or paleness of skin, distended abdomen, loss of strength, water brush, aversion to food, cardiac distress, looseness of stool, pain in the abdomen &c.

Some of the blood parasites are described as having no head, tail etc. They therefore correspond to micro-parasites or eggs of macro-parasites.

Some Blood-parasites often produce several skin eruptions proceeding to suppuration. These therefore correspond to the pyogenic organisms that affect man.

SYMPTOMOLOGY, DIAGNOSIS AND PROGNOSIS.

In the case of infants whose principal food is milk and sweets, the intestinal parasites are quite common in that period of life. These produce symptoms of fever, coryza with sneezing preceded by scratching of the tip of the nose), nausea and distaste for food. Others get pain in the abdomen, vomiting, loose stool, diarrhoea, etc.

It is often difficult to distinguish such symptoms, whether associated with worms or otherwise.

Children who are fond of partaking excess of sweets and sooth-ing things, often suffer from intestinal parasites. They complain of pain round the navel, constipation, the body gets thin, pale or yellow ; they often get indigestion or diarrhoea. When the parasite travels to other regions from the intestines, symptoms are accordingly produced e.g. tympanites and other gastric and intestinal symptoms in the intestines, cardiac distress and respiratory trouble in the chest and sometimes cerebral troubles. There is also scratching of the tip of the nose, grinding of the teeth, talking during sleep etc.

These intestinal parasites may travel upwards and are vomited or downwards when they are passed with the stools. When the parasite of the large intestine travels upward, it produces a foetid odour in the breath.

It is often difficult to distinguish whether certain symptom-complex like colic, indigestion, cardiac pain and distress, certain cerebral troubles, weak appetite, constipation or diarrhoea, coryza and respiratory trouble and fever are due to worms or other causes, for the purpose of treatment.

Modern medicine teaches us that these clinical symptoms may be caused by Exotoxins secreted by the worms or to Endotoxins produced from the gastro-intestinal tract as result of defective digestion (antitoxins are produced) or due to micro parasites in those regions where symptoms are manifested.

Often both the factors are present—the disease and the worms.

SOME SPECIAL SYMPTOMS.

1. *Vomiting* due to worms—This is distinguished from that of acidity by the fact that it is not acid. The vomiting of worms is of belious taste, often preceded by evacuation of some tasteless watery fluid from the mouth. Further it is relieved by taking food. There are associated with other symptoms of worms. Sometimes the worm is ejected with the vomit, revealing the true state of affairs.

2. *Diarrhoea* due to worms—It is often mistaken from diarrhoea of indigestion and if associated with vomiting in summer with summer diarrhoea and if associated with vomiting, simulates cholera. A careful inspection of the stool reveal the presence of worms. These are often associated with indigestion and fever.

The writer knows of a case of death apparently from cholera in an adult, the autopsy indicating the presence of a large number of round worms in the intestines.

3 *Colic* due to worms—sometimes it is so severe that the little patient is restless for days and nights, refuses to take food, is severely constipated. The persistence of the pain and restlessness distinguishes it often from the Colic of indigestion.

The writer knows of a case of round worm in an infant aged two years. All on a sudden she had a severe pain in the abdomen and became extremely restless. Purgatives, enema etc. could give her no relief though some faecal matter was passed. The child refused to lie in bed or sleep for several days, did not take any food and cried the whole time. No position would give relief. Digestives, antiseptics, anodynes had no effect. In the first day or two glycerine enema moved her; later on it was of no effect. There was no vomiting or fever. The child had to be moved continually too and fro on the lap. She pressed her hand with her little arms and curled up her legs. She felt sleepy but could not sleep—In the meantime suspecting the presence of worms, Santonine followed by castor oil was administered successively for two or three nights. On the 8th day she wanted to move and passed a knot of about half-a-dozen round worms at a time, several times on that day. This continued for about 4 or 5 months. In the first month she passed over 1000 worms and altogether over 3000 worms. This is of course an extreme case. Previous to the attack she was apparently alright, except that she was thinner than her brothers and sisters and somewhat pale. It was curious how she lived and had no untoward complications.

4 *Indigestion* due to worms—In infants and children when worms are present in the intestines, there is hardly any sense of appetite. There are also present symptoms of indigestion and loose stool passed several times daily, a little at a time. Occasionally there is itching round about the anus, grinding of the teeth during sleep and talking, and rubbing of the tip of the nose during waking.

Respiratory troubles due to worms—In infants and children, due to presence of worms in the small intestines, they become very susceptible to fever and coryza. Such children scratch the tip of the nose before such an attack. The process runs downwards to the throat and chest and induces various respiratory troubles.

6. *Cardiac trouble due to worms*—In infants and children, due to presence of worms in the small intestines, there is cardiac pain and distress with associated symptoms of worms e.g. sputum is constantly spitted out, indigestion, nausea, fit, thinness, sense of ball sticking in the throat etc.

7. *Cerebral troubles due to worms*—There is grinding of teeth during sleep with talking or waking up with a start in the case of a child who complains of pain at the sides of the head, throbbing, oozing of water through the nose etc.

In general it may be stated that worms produce various indefinite symptoms, often difficult to diagnose. Children fond of sweets are generally fatty and become weak and pale when they lodge worms. They sometimes take too much food, in spite of which their health does not correspondingly improve (Worms should be suspected where the water supply is not filtered and stools microscopically examined).

The macroscopic worms are easily curable, but the microscopic blood parasites are difficult to cure and some of these are incurable.

TREATMENT.

The physician should first diagnose whether a case is one of worms or otherwise. Next he should ascertain what particular variety of worms is the cause of the trouble.

In the case of skin parasites like lice &c, found in a hairy part, it is advised to shave the hair if possible and clean the part allowing no filth to accumulate. The skin is purified by rubbing with turmeric paste. This is a common custom in Madras amongst women. After shaving when the hair grows up, the parasites re-appear. Rubbing with medicated oils (Vidanga Taila,, Dhastura Taila) kills them altogether.

In the case of the intestinal parasites, if there is nausea, emetics are given; if constipation the patient is purged every 3rd or 4th day or the bowels moved by enema (*Vasti-kriya*). Specific vermifuges are recommended with other symptomatic drugs in combination with indirect vermifuges that correct the G.I. tract (so that there is no accumulation of mucus in the small intestine or faecal matter lower down) and improve the tone of the mucous membrane (which is thus made unfit for the worms to live there and thrive). Specific vermifuges are given to expel the colonies. The indirect vermifuges are bitters and such metals as Iron.

In the case of blood parasites, antiparasitic remedies are recommended. Of the vegetable drugs the common condiment Turmeric is highly recommended. Of the metallic and mineral drugs, mercury, sulphur silver, copper etc. are recommended.

In cerebral cases besides drugs by the mouth medicated snuffs (Apamarga Taila, Trikatvadya Nasya etc.) are recommended.

Special treatment is recommended when there is destruction of the finger nails, caries of the teeth and Leprosy.

SPECIFIC VERMIFUGES.

1. *Ptychotis ajowan* of the variety imported first from the Khorasan Province of Persia. Hence it is called Khorasani or Persian ajowan. It contains thymol and is therefore good in Anchylostoma. It is taken with rock salt in empty stomach early in the morning.

The wild variety (*Vana-jamani*) is also good and is one of the ingredients in several vermifuge combination.

2. *Tulsi* or Holy Basil is also good in anchylostoma as it also contains thymol. It belongs to the 'Surasadi' group of drugs, most of which are well-known vermicides e.g. Tulsi black (*Ocimum Nigrum*) and white (*Ocimum Album*), Marubak (sweet marjoram—*originum marjorum*) Dona or Nagdona (*Artemesia Indica* from which Indian Santonine is prepared), Babui Tulsi (*Ocimum Gratissimum*), Van-tulsi (wild variety), Vidanga (*Embelia Ribes*—good for tape worms) etc.

3. *Vidanga* (*Embelia Ribes*)—The berries are very valuable antiseptics for tape worm. They are also carminatives and stomachics. The powder of the seed is given with honey. The infusion of the seed is also given.

Vidanga is a very important vermifuge in the Ayurveda. It enters into the composition of various such combinations in different forms e.g. *Vidanga Joga*, *Vidanga Kvath*, *Vidanga Churna*, *Krimi-Kalanal Rasa*, *Kitmarda Rasa*, *Krimighna Rasa*, *Haridra Khanda* (worm lozenges), *Vidanga Taila* (for external application), *Vidanga Lauha* (Tonic for Anaemia induced by worms), *Vidanga Ghrita* (tonic to recoup body weight lost by attack of worms) etc.

4. *Dalim* (pomegranate root bark)—Its decoction is also good for tapeworms. The tannate of the alkaloid is known as Pelletierine Taunus.

5. Seed of *Pumpkin* (Bilati or imported Kumra) is good in tape-worms.

6. Seed of bitter variety of *Gourd* (Tit-Lau) with whey or cocoanut water and honey is also recommended in tape-worms.

7. *Dona* (*Artemesia Indica*)—Indian Santonie plant, is good in round worms.

8. *Palas* (*Butea Fondosa*) is also good in round worms acting like Santonine. The seeds are pasted with whey or honey and taken internally with lime juice is good in ring-worm.

9. *Date palm*—The inside (pith) of the tree is good in thread worms.

Of the other vermicifuges recommended are :

Palida madar (*Erythrina Indica*)

Kamala (*Mallestus Philipensis*)

Ghetu (*Clerodendron Inforteruum*)

Keu (*costus speciosus*)

Pineapple (leaf juice)

Someraj (*vernonia anthelmentica*)

Musikaparni (*Salvinia cucullata*)

Sajina (*Moringa Pterygosperma*)

Seuli (*Nyetanthus Arbortristis*).

It will be interesting to know the effect of each of these in particular intestinal worms and to find out the rationale of such efficacy.

Most of these are taken as food fruits of Date, Pineapple, Pomegranate Vegetables e.g. Pumpkin, Gourd, Sajina ; many are good home remedy for worms (Someraj, Pineapple-leaf juice, Pomegranate-root bark etc.) Tulsi-leaf is taken daily by every devotee of the God Vishnu after "pujah" and is found in the courtyard in every Hindu home. Ajowan is taken with betel by every Indian.

(To be continued.)

RECOGNITION OF "UNANI" SYSTEM OF MEDICINE. GOVERNMENT REFUSAL.

—o—

A resolution of the Government of Bengal on the report of the committee appointed in August 1921 to consider and advise the Government as to the best steps to be taken for the restoration and development of the "Tibbi" or "Unani" system of medicine states that the Governor in Council, after a careful study of the Committee's report, is of opinion that there is no adequate justification for the expenditure of public funds on the scheme outlined by the Committee.

The Committee issued a 'questionnaire' to 272 "Hakims" of standing in different provinces and to members of the All-India "Tibbi" Conference but the response was disappointing. Later, it was decided to depute Major Suhrawardy and Hakim Habibar Rahaman (members of the Committee) to visit different centres of "Tibbi" learning with a view to studying at first hand the methods of the teaching in vogue in different "Tibbi" schools. In his report Major Suhrawardy pointed out that the "Tibbi" or "Unani" system had languished in Bengal partly owing to the decline of Moslem influence. It was suggested that the encouragement of the "Tibbi" system might provide a cheap and yet a sufficiently skilful type of doctor for the needs of the Mohammedan community in rural areas and might provide employment for many of the Maulavis who, after a course of study at the Madrasas, have difficulty in finding a market for their wares.

The Committee then made certain proposals which, briefly stated, are as follows :—

(1) The establishment of "Tibbi" schools in Bengal to be associated for clinical training with the recognised Government medical schools of the province ; (2) the provision of scholarships for the purpose of sending selected students to the "Tibbi" Colleges at Delhi and Lucknow, these scholars being bound by agreement to enter a rural medical service, to practise in rural areas with the help of subsidies to be granted by local bodies, on the completion of their course ; and (3) arrangements for post-graduate training of students qualified in the "Tibbi" system, under well-known 'Hakims' in different parts of India.

DEFECT OF THE PROPOSALS.

The chief defects of these proposals, the resolution points out are that they are designed to produce a class of practitioners following a system of medicine which admittedly requires to be supplemented by a study of such vital subjects as Midwifery, Gynaecology, Surgery, Bacteriology and the whole science of preventive medicine. The proposals, moreover, aim at giving a mere smattering of the western system to students who in educational qualifications are much inferior to the type of students now seeking admission to the recognised medical schools. The Government have deliberately set themselves to promote the spread of western medical science, and have taken steps to control and standardise the training and examination of medical students in Bengal. Many private schools which had neither the means nor facilities to train and qualify students for general medical practice, have been closed, and a high standard is gradually being built up. It would not be possible to introduce "Tibbi" students into the recognised medical schools for clinical training and the Governor in Council is of opinion that any definite recognition by the Government, such as the Committee proposes, of "Tibbi" studies will inevitably drive the Government ultimately into accepting full responsibility (involving heavy expenditure) for the continuance and development of a system which is in so many respects utterly different from the system already transplanted with such admirable success into India.

The Government are not satisfied that there is any need to subsidise "Tibbi" studies proper, or that there is justification for the state incurring expenditure in seeking to engraft some limited knowledge of western methods and theory on to the "Tibbi" system. And the lack of response by the general public and by "Tibbi" practitioners to the enquiries of the Committee suggests that there is no strong popular demand for an attempt to multiply the followers of Avicenna.

VEGETABLE DRUGS IN AYURVEDA.

BATSANABHA AND ITS THERAPEUTIC USES

BY

VISHAGBHUSAN KAVIRAJ

A. C. BISHARAD, M. R. A. S. (Lond.)

SYNONYMS.

SANS : Batsanava.

TAM : Basanabi.

TELEGU : Basanabhi—Nabhi.

CANARESE : Basanabi.

MAL : Vasanabhi.

BENGALI : Kathbish.

HINDI : Mithabish, Bachanag.

GUJRATI : Bachchi-nag.

MAHARATTI : Bachnag.

PERSIAN : Jahar.

ARABIC : Bisha.

ENGLISH : Aconite.

Varieties :—

There are several species of *Bisha* (poison) described in BHABAPRKASH, viz., *Batsanabha*, *Haridra*, *Saktuka*, *Pradeepana*, *Saurastrika*, *Shringika*, *Kalakut*, *Halahala*, *Brahmaputra*.

The majority of these are species of aconite. Bhabaprakasa thus describes their characteristics :—

- (1) *Batsanabha* — Resembles in appearance the navel of children, whence it derives its name. The leaves are like those of *Nishinda* (*Vitex Negundo*). It is said that no plant can grow in the locality where it abounds.
- (2) *Haridra* :—It is so called from its likeness to *Haridra* (turmeric).
- (3) *Saktuka* :—This root when broken shows starch-like substance inside.
- (4) *Pradipana* :—This variety is described as red and shining in appearance and causes adverse burning sensation when internally administered.

- (5) *Saurastrika* :—This poisonous root grows in the country called Surat whence it derives its name.
- (6) *Shringi* :—When tied to the horn of a cow, this is said to change her milk red.
- (7) *Kalakuta* —It is a native of Malwa and the Concans. The gum of the plant is used.
- (8) *Halahala* :—This variety is found in the Himalayas, the sea-coasts of Southern India, Concan and the mountainous districts north of the Mysore province. Its leaves are like those of palm trees and the plants bear fruits in bunches like grapes.
- (9) *Brahmaputra* :—It grows in Malaya ranges and the Western Ghats. It is tawny in colour and causes purging.

Of all the varieties described above, Batsanabha or Aconite ferox has long been in use as a powerful medicine from a very remote period. It has been mentioned in *Bhabaprakasha*, *Rasaratnakara*, *Sharangadhar*, *Bhaisayyaratnabali*, *Rasendra-Chintamani*, *Rasendrasarasangraha* and *Chakradatta*, as we shall presently notice while describing the preparations in which it is used as one of the principal ingredients.

HABITAT :—Batsanabha is found in abundance in Nepal, Sikkim and the temperate and sub-alpine regions of the Himalayas from Kashmire and eastwards.

CHARACTERISTICS :—Aconite ferox (Batsanabha) is black, much larger than the English variety (Aconite Napellus which is 2 to 4 inches in length, from $\frac{1}{2}$ to $\frac{1}{4}$ of an inch in diameter at the upper extremity, dark brown in colour, marked with scars and bases of broken rootlets, and crowned with the remains of an undeveloped bud, whitish starch internally) It measures 6 inches in length, yellowish and then brownish, red and horny inside. Its constituents are similar to aconitine in action. Its pharmacological action is similar to Aconite Napellus, and even preferable in several respects.

Uses in Ayurveda :—

It is used internally and externally in many ailments where it is indicated.

In Rajanighantu we find :—

वत्सनामोऽनिभृतः सोषणवातकफापहः ।
करण्डक् सान्त्रिपातम्भः पित्तमुल्तापकारकः ॥

It is described as heating and stimulating in reaction and beneficial in complaints arising out of the disintegration of *Vayu* and *Kapham*, and in throat affections and where the *tridhatu*s are involved. It is said to stimulate and disintegrate *pittam*.

CORRECTION : - Aconite should be carefully corrected before use, in the following manner :—Cut the roots in small pieces and steep them in cow's urine for three consecutive days, changing the urine daily every morning. Then have these dried in the sun after removing the outer skins, when they are ready for medical use.

MEDICINAL USES.

It is used by the Vaidyas internally in many affections, and forms the principal ingredient in many compound medicines, recommended in fever, cephalgia, throat affections, dyspepsia and rheumatism.

IN FEVERS.

MRITYUNJYA RASA (*Rasaratnakar*).

R/-

Corrected aconite.

Sulphur.

Black pepper.

Long pepper.

Borax 1 part.

Cinnabar ... 2 parts.

Powder well and rub them into a paste with water for days together. When well-powdered, divide the mass into 2 grain pills. It is indicated in the *Vayu* type of remittent fever and that of Typhoid type.

ANANDA BHAIKAB RASA (*Sarangadhar*).

R/-

Cinnabar.

Aconite F.

Black pepper.

Borax.

Long pepper. ... aa

Prepare as above and administer in doses of one to 2 grains with honey. It is indicated in fevers attended with severe diarrhoea (typhoid type). Butter-milk and rice-gruel may be given as diet. If the patient feels thirsty, cold water should be given for drink.

In fevers with constipation the following preparation is used with benefit.

JWARAMURARI RASA (*Vaisajyaratnabali*).

R/-

Cinnabar.	
Aconite F.	
Dried ginger.	
Long pepper.	
Black pepper.	
Borax.	
Chebulic myrabolan.	... aa
Corrected Croton seeds	... total of the combined quantity of the above ingredients.

To be pulverised and well beaten and made into pills 2 grains each.

Administered generally with honey and ginger juice.

IN CEREBRAL FEVERS.

PANCHABAKTRA RASS. (*Sharanghadhara*)

Black Sulphide of Mercury (*kajjali*) 2 parts.

Aconite F.

Black pepper.

Borax ... aa 1 part each.

Pulverise and soak the quantity in the juice of datura (*stramonium*) leaves, rub well for twelve hours, and divide into 4 grains pills. To be administered with the decoction of the root of the *Arka* plant (*calotropis gigantea*) with the addition of *Trikatu* (long pepper, black pepper and dried ginger). This is very useful in fevers of a complicated nature attended with cerebral symptoms.

IN CHRONIC FEVERS.

SAUBHAGYA BATIKA (*Vaishajya Ratnabali*)

Aconite,

Borax,

Cumin seeds,

Rock salt,

Sonchal salt,

Sambhar salt,

Embelic Myrobolans			
Chebulic	do.		
Belleric	do.		
Dried ginger			
Long pepper			
Black pepper			
Reduced Mica	...	aa	1 part each.
Black Sulphide of Mercury	...		2 parts.

Pulverise and mix the ingredients well, soaking them seven times successively in the juice of the following leaves :—

- (1) *Nirgundi* (*vitex Negundo*)
- (2) *Sephalika* (*Nyctanthes Arbor-tristis*)
- (3) *Kesharaja* (*Eclipta Prostrata*)
- (4) *Vasaka* (*Adhatoda Vasaka*)
- (5) *Apamarga* (*Achyranthes Aspera*)

The principle is to soak the ingredients each time in the juice of each of the plants and get dried in the sun and the mass well rubbed, repeating with each vehicle successively for seven times. When this process of soaking, drying and rubbing is over, have the entire mass ground well again, and made up into 4 grains pills. To be administered with honey or with the addition of any other indicated vehicle.

We have found it useful in chronic fevers with strong shivering fits, copious perspiration or attended with much heat of the body.

IN DYSPEPSIA.

RAMABANA RASA (*Rasendrachintamoni*).

R/

Mercury	{	in the form of	...	2 parts.
Sulphur		black sulphide of mercury.		
Aconite F.				
Cloves		aa each 1 part.		
Black pepper		½ part.		
Nutmeg		½ part.		

Rub together to the consistency of a paste, with tamarind juice and divide into 2 grain pills. It is given with benefit in dyspepsia with loss of appetite with the addition of powdered black pepper and honey or simply with honey and rice-water.

IN THE KAPHAJA TYPE OF FEVERS.

KAPHA-KETU (*Rasendrasarasangraha*)

Aconite

Borax

Reduced conch-shell in equal parts.

Powder and mix well and soak them over three times successively in the juice of fresh ginger. Prepare pills of two grains each, to be used with honey and ginger juice. This is a well known medicine, indicated very successfully in all sorts of phlegmatic complaints, from common catarah to sore throat, cough, asthma, bronchitis and pneumonia, even attended with discharges from the ears and the nose. In all sorts of *kaphaja* type of fever it may safely be used as an expectorant, a resolvent of the phlegm and febrifuge.

In *Migraine* and *cephalalgia* we have found the following prescription very effective :—

Aconite ... I part.

Liquorice root,

Masha kalai (*Phaseolus roxburghii*).

Powder and rub well with ginger juice and make into 1 grain pills. To be administered with ginger juice and rock-salt.

EXTERNAL USE.

In boils and skin-diseases we find it recommended as effective when applied in the form of liniment and ointment. Chakradatta mentions a preparation of oil, which is recommended as effective in boils, prurigo, psoriasis, leucoderma and allied skin-diseases, called *Visha Taila*. It is a preparation of sesamum oil with aconite root, karanja (*pongania glabra*), turmeric, Daruharidra (*Berberis asiatica*, Arka (*calotropis gigantea*), karabira (*nerium odoratum*), tagara (flower of *tabernaemontana coronaria*), Vacha (*Acorus calamus*), Kustha (*aplottaxis auriculata*), asphota (*vallaris dichotoma*), red sandal wood, Malati (flowers of *aganosma caryophyllata*), bark of Saptaparna (*alstonia scholaris*), maddar, nirgundi leaves (*vitex negundo*) and cow's urine.

The solid ingredients should be made into a paste with water and then boiled with the oil and cow's urine till the watery portion is evaporated, in the usual process of preparation of medicated oils.

HERE AND THERE

BY FREE LANCE.

I congratulate my friend Kaviraj Jamini Bhushan Roy, M. A., M. B., the founder and Principal of the Astanga Ayurveda Vidyalaya on his recovery from a long spell of illness, which kept him confined to bed for months. He fell ill after the foundation-stone laying ceremony of the College and he comes out to see the second storey of the Vidyalaya nearing completion. Heaven be thanked for his recovery.

* * *

Funds are necessary to meet the expenses of the new building in which both the College and the Hospital are to be located. There is no dearth of monied men in Calcutta and Bengal and I fervently hope that besides big donations from those who can well afford, every Bengalee will set apart at least one day's income for this really good and much-needed institution, which promises to be the nucleus of an All-India Ayurvedic University—a real work of nation-building.

* * *

Students are coming from all parts of India and even Ceylon to have their education from this unique institution. So it can truly be called an All-India concern and it behoves Indians of all classes and sects to contribute liberally towards the building and hospital fund. Mahamahopadhyaya Gananath Sen, President of the Executive Council of the College has set an example by his princely donation of Rs. 50,000 (fifty thousand) as an endowment for the hospital. But the work is too much to be a one-man or two-man concern, however bountiful they might be. The benefit, this college with the hospital is expected to confer on the Indian masses, will be unspeakable and far greater in magnitude than one can think of at present : and I shall not be charged with over-optimism if I say that people should vie with each other in devising means and ends towards its development and success. Donations and subscriptions should be sent to Babu Prafullanath Tagore, Zemindar, 1, Darpanarayan Tagore Street, Calcutta.

* * *

Kaviraj Jamini Bhushan is indeed a chip of the old block, who believes in doing what he preaches. I am really glad to note that instead of sending up his eldest son, Sriman Bijoy Bhushan Roy (who has this year taken his B. Sc. degree) to the Medical College or the Carmichael College, in any of which institutions he would have been welcome, he has, like a dutiful devotee of Ayurveda, admitted him to the Ashtanga Ayurveda Vidyalaya. How I would like to see my brothers in profession follow him in this noble example.

* * *

I am also glad to announce that Sriman Shivanath Sen, B. A., M. B., and the veteran Kaviraj Shital Chandra Chattejee have joined this institution as honorary professors. The worthy President of the College Council, Mahamahopadhyaya Gananath Sen, is himself lecturing on some of the higher subjects and has just finished his inaugural lectures. Many others of lead and light are also co-operating to run the College on a better standard of efficiency. My one request to the President of the College Council and the Principal is that they do select men who really are firm believers in Ayurveda. Vain and fickle-minded people are the worst enemies of progress and are always found deserters on the firing line.

* * *

The Calcutta Ayurveda Sabha is moving ahead. Under the able guidance of its intrepid President, Mahamahopadhyaya Gananath Sen, it is mapping out a line of work which at no distant date is to play no small part in solving the health problem of Bengal and its rural areas. Silently the Sabha is gaining respect in all quarters by its benevolent and far-reaching endeavours and our best thanks are due to its young secretaries, Kaviraj Kali Bhushan and Bankim Chandra Sen, for their selfless task.

* * *

The Sabha, as already announced in these columns, was instrumental in opening and conducting four charitable dispensaries in different wards of Calcutta helped by a grant from the Corporation of Calcutta. All these centers are daily crowded with patients seeking relief by Ayurvedic treatment, from the relentless grip of Kala-azar, Malaria and Consumption and other intractable diseases. The results of treatment have been very encouraging and I pray that the Corporation of Calcutta will come forward with the scheme of establishing more free Ayurvedic dispensaries. One for each ward would not be too much to expect. The cost of running these institutions is cheaper than Allopathic dispensaries so far as the cost of efficient treatment is concerned and the results are highly gratifying.

* * *

Further, the treatment is Swadeshi and what more can my Swarajist friends do than to save the country from the drain of millions of pounds that go out of this country every year in the purchase of Allopathic drugs? The country is impoverished and the poor can ill afford the costly Western treatment with its preliminary examinations of blood, stool, urine, sputum &c. The Khaddar will no doubt save a lot of drain but the introduction of Ayurvedic treatment and the adoption of preventive and sanitary measures recommended by Ayurveda will bless the country with healthy manhood which is the *sine qua non* of future Swaraj,

* * *

On the 23rd of August last Mahamahopadhyaya Kaviraj Gananath Sen opened another free Ayurvedic dispensary at Dhakuria, a village about four miles off from Calcutta, under the auspices of the Ayurveda Sabha. Many of the Calcutta Kavirajes were present and the elite of the place was in attendance. It was a pleasant function and inspired all with a spirit of duty and brotherhood and hope in the further spread of Ayurvedic treatment in the rural areas where there is the greatest need of such centres. The people are just awakening from a spell of inertia and beginning to understand the value of their own system of treatment.

* * *

As I expected the report of the Unani or Tibbi system in Bengal was weighed in the official balance and found wanting. A Government Communiqué of Bengal on the Report of the Committee appointed in August 1921, which plodded on for full four years, stated that the Government are not satisfied that there is any need to subsidize "Tibbi studies proper," or that there is any justification for the State incurring expenditure in seeking to engraft some limited knowledge of Western methods and theory on the Tibbi System. In Bengal Tibbi system is almost dead and gone, a few advertising Hakims only are keeping up its name and the people generally are quite indifferent to its progress. In view of this fact the Government cannot be much blamed for their decision but I would have been glad if Government had helped the Tibbi people with grant for research in their line.

* * *

As for Ayurveda, its spirit is ingrained in the soil of Bengal and its people. Inspite of the rapid strides made by the Western School of Medicine, the majority of the people of Bengal of all classes are served by Ayurvedic physicians. Several Ayurvedic Institutions have been opened in Calcutta, amongst which the Ashtanga Ayurveda Vidyalaya has a record of nine years' progressive existence. The Corporation of Calcutta has given the seal of public support to this Institution by a free grant of a big plot of land upon which a palatial building is under erection and nearing completion.

* * *

Besides, the Corporation is helping it with an annual grant of money for its up-keep. Now it rests with the Government to come forward to help this growing institution with an annual grant. The encouragement and support given to Ayurveda study to further its development and progress is the only means of solving the problem of the much-needed medical relief to the people at large who are daily dying like rats and fleas. According to a recent calculation there is only one registered

medical-man to a population of 11,450. So the only way by which the medical relief can be extended to the masses is by the spread of cheap and efficient Ayurvedic treatment on the lines advocated by the Calcutta Ayurveda Sabha. I trust the Government will not fail in their duty to encourage and support the spread of Ayurvedic education on scientific lines and thus earn the gratitude of the suffering millions entrusted to their care.

* * *

Editors are blessed with second sight—and shall we say with the famous third eye! Even rigid official secrets seem to be at their finger's ends. So we were not surprised when we found the learned heads of the *Indian Medical Gazette*, solemnly anticipating the report of the Bengal Ayurvedic Committee. But as it is an open secret that the Report was ultimately hatched in the School of Tropical Medicine, the anticipation reads like the forecast of a clever astrologer who prophesies when the event has happened. But fun apart, the unsympathetic ring that runs through the great prophecy appears not in good grace. At any rate it is not in keeping with the highly sympathetic and sensible editorial which appeared in a former issue of the *Indian Medical Gazette* and made people rub their eyes in wonder. Am I then to understand that the sympathy was lip-deep or that the views of the different editors of the Journal are as poles asunder?

* * *

To talk of the Western Allopathic system as "Scientific" and to imply that all other systems are unscientific" is a game played out long long ago. Science is not the monopoly of the West and Empiricism is not the mainstay of the East. That Ayurveda is based on science—not on Empiricism, (though empiricism is the mother of science), any more or less than the western system can be easily understood by a keen study of Ayurveda. This truth, I think is clear to many now though it suits the purpose of adverse critics to call it un-Scientific. A shibboleth like this serves well, but it is not a truth that stands!

* * *

Reading between the lines, however, the "Forecast" referred to above does not fill my heart with hope. Sir Surendranath, the originator of the scheme is now no more. Babu Brajendra Kishore Roy Choudhury, the supporter of the scheme is out of the Assembly. Sir Ashutosh who had a scheme of his own to inaugurate a research Laboratory of Ayurveda in connection with the Calcutta University has left us. The Swaraj Party is engaged in getting swaraj—"now and here"! So, the champions effervescent under the mask of a world-wide movement of medical

relief, medical education and medical research, public health and what not. They are volatile in extolling that the action of a Government in subsidizing "scientific medicine" was not the result of racial, national or religious prejudices but the outcome of the considerate opinion and common consent of the educated classes of each country which regarded "scientific medicine" as the only system which is capable of meeting the needs of the people" !

* * *

So the song is—out you go ! And let us flood the already poverty-striken land with the parapharnelia of patent medicines and appliances imported from Europe and America in the name of international scientific medicine" !

* * *

As I have already stated they have succeeded in their attempt with regard to Unani Medicine and from the wind that blows it may be surmised that nothing substantial is expected for the Ayurvedic medicine. The tune is hummed that these knights of scientific medicine cannot recommend the formation of schools or colleges which will teach matters of which they are ignorant. Ignorance is bliss when it touches the pocket to be wise ! When you daily find that the practitioners of Ayurvedic medicine are effecting cures where you fail—you have not the charity to admit it. Fortunately the time has come when the people of the country have learnt to discriminate between good and evil and they must have Ayurveda once again established on its own rocky foundations.

* * *

I trust the Government is not blind as to the importance of Ayurvedic medicine and the whole-hearted support it is getting from the public : and as such will come forward with an open purse for its upkeep and restoration, as suggested by the Committee amongst whom are men who represent both the Eastern and the Western healing art and can hold their ground against their worst detractors.

CORRESPONDENCE.

To

THE EDITOR,

THE JOURNAL OF AYURVEDA, CALCUTTA.

DEAR SIR,

Now-a-days every effort is being made to revive the glory of Ayurveda. It goes without saying that it is the system liked by the masses. There is no case to which an Allopathic doctor is called in, where there is not a native Vaidyan already in attendance. Though the patient be put under the treatment of the Allopathic physician the native Vaidyan also continues his attendance, of course in many cases at the request of the patient or his relatives. The presence of the Vaidyan is greatly embarrassing to the Allopathic Doctor; because they both follow different methods of examining the patients and thus the one does not understand the other. At any rate in the Madras presidency, so far as I have seen, feeling the pulse seems to be the only means employed by the Vaidyan to diagnose the disease whatever it might be. I have personally seen one such physician who boasts that he could predict the time of onset of labour pains in a pregnant woman by feeling her pulse.

These Vaidyans decry the western system of medicine in season and out of season. They tell the people that English medicines will all increase the Pitta which they find out from the pulse. They have no knowledge whatever of the human anatomy.

As Ayurveda is making considerable headway, we, in true scientific spirit, are very eager to learn its methods and secrets. That is the very reason why I request you to publish in your Journal detailed articles dealing with the methods recommended in Ayurveda to study cases at the bed-side and diagnose them. Propaganda articles for the revival and recognition of Ayurveda may be done through the lay press. Much space may be released in the Journal for the insertion of articles of interest to the profession. I request you to kindly take up my suggestion and give expression to it through your Journal.

Devakotta,

Yours sincerely,

Aug. 6, 1925.

M. G. SUBRAMANIA AIYAR, L.M.P.

[Ignorant orthodoxy is always detrimental to the interests of science. We sympathise with the Madras doctors for their delicate position in being dogged by the Vaidyans, specially when their methods of diagnosis are different. Comparison is always odious, the more so when it is based on bias and not on liberal criticism. Propaganda is essentially necessary to remove this spirit of mutual misunderstanding and as an educative factor of immense value. Instead of condemning this and that party it behoves all interested in the healthy growth and spread of a science to join hands and help each other. The doctors should also come forward and be friendly with Vaidyans and help removing this mutual suspicion, instead of decrying them.]

The methods employed in Ayurveda can only be unfolded gradually. In an editorial in a previous issue we warned our doctor friends not to be in a hurry. Mere pilfering won't serve them in the long run. To learn the methods of Ayurvedic treatment, they must be in possession first of certain preliminaries. We are gradually unfolding these. We trust our readers will have the patience peculiar to men of science and thus help us in our work.—A. C. B.]

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MALARIA & KALA-AZAR.

It is almost a truism that "prevention is better than cure". I presume no sane man will contend the applicability of this axiom to the requirements of our daily existence. But the Government of this land of lotus-eaters are too slow to grasp the real cause of suffering of the people and the horrible toll of death-rate from preventable diseases, which is being exacted mercilessly from the teeming population year by year. They seem to forget that the real asset of any Government established by law is a healthy population.

A cursory glance at the Annual Report published by the Surgeon General reveal the situation in its stern reality. The Annual Report of the Bengal Government for 1923 shows a slight apparent decrease in the death-rate from Malaria, but at the same time, records an increasing death-rate from Kala-Azar. In 1922, the death-rate from Malaria was roughly five lacs and 40 thousand. In 1923, the figure was about the same—a few hundred less. But Kala-Azar seems to have claimed more human lives, the figure in 1921 was 1552, in 1922, 1531 and in 1923 by one big leap it reached to the figure of 4565. It is difficult to say considering the poor technic and knowledge available in the mofussil dispensaries whether these latter are really Kala-Azar cases or cases of Chronic Malaria with enlarged liver and spleen and returned as Kala-Azar. However, on the whole, taking both Malaria and Kala-Azar cases together, we find an

appalling increase in the death-rate each succeeding year : and the means adopted to prevent their spread and treat the affected areas seems to be very meagre and half-hearted though ostensibly pretty extensive and vigorous.

The Health Department is a top heavy administration, where the few favoured figures sit under the fan and like intrepid generals map out their plan of work rather leisurely but their operation touches only a fringe of the population. In the year under review, the District Board carried out their operation in 125 special centres the results of which are quite inadequate when considered in relation to the area affected. The local Government sanctioned the magnificent sum of Rs. 5000/- to the Bengal Central Anti-Malarial Co-Operative Society and a like sum to the Bengal Health Association. In view of the havoc played by these two scourges of Bengal and the considerableness of the area where operations are to be carried out, this sum is rather a waste and if not an insult to the popular societies which are making a whole-hearted attempt to carry relief to the dumb millions of sufferers. It seems the problem of supplying pure drinking water in areas where it is conspicuous by its absence, the immediate need of clearing the jungles and filling up of stagnant water reservoirs and re-establishing the waterways logged up by Railway Embankments to restore natural drainage, are neglected ruthlessly though thousands are spent in purchasing quinine—which is still believed to be the panacea. If the grievances enumerated above were removed with the utmost speed Malaria and Kala-Azar would have died a natural death within a few years !

Next regarding treatment of the already affected areas we hope we shall not be rebuked for stating that the question of a suitable remedy is still unsolved : and what treatment the western system outlines is according to our sad experience and observation, quite inadequate and imperfect. Why not then think of taking help from the

Ayurvedic treatment which even now treats some worst cases with unique success? The Government may be slow to take up our suggestion, having a system of their own to patronise and look after. But the Municipalities, District Boards, Union Boards and the educated and saner section of the population who can lead to the real work of pioneering, are already coming forward to find out for themselves by comparative statistics, whether Ayurvedic system affords any better relief. It is expected that if they find in this method anything worth consideration in comparison with other methods, they would adopt and patronise it by establishing a network of charitable dispensaries under their jurisdiction, manned by students trained by the Ayurvedic Institutions of Calcutta and elsewhere. Considering the poverty of the people this method of treatment is cheaper, easily adaptable and more effective.

The Calcutta Municipality have taken the lead in this direction by starting four charitable dispensaries managed by the Ayurveda Sabha of Calcutta and recently, as noted in a previous issue, the people of Dhakuria have started another in their own area. The results of the working of all these dispensaries are quite encouraging and we appeal to all public bodies and charitably disposed persons throughout the length and breadth of Bengal to come forward and start such more dispensaries even for experiments' sake. The services of the Ayurveda Sabha we believe are always at their disposal. The people of Behar are rapidly moving towards this goal. The friends of Bengal would do well to lose no precious time—but come forward to formulate schemes to dot the land with such really useful and beneficial Institutions, which will save their dear and near ones from penury and untimely grave.

Original Articles.

DIETETIC VALUE OF INDIAN POT HERBS.

BY

N. B. DUTT, M.R.A.S. (Lond.)

Sometime ago Dr. Harold Scurfield writing in the "British Medical Journal" urged larger production of water cress under sanitary condition and its greater consumption among townspeople. According to him, water cress (*Nasturtium officinale*) probably contains all the three vitamines and it is likely to remedy the dietary errors caused by urbanisation. Water cress is not rare in many parts of Northern India and it deserves more attention as a cheap and good food. But we are not confining our consideration here to water cress only. In our country, where there are plenty of pot herbs, water cress is a minor thing. We have dozens of 'sags', as the pot-herbs are comprehensively termed, which are both more palatable and more nutritive than the water cress. Unfortunately our young men have now learned to look down upon these 'sags' and even they call these vegetables, cattle-food, little knowing that a judicious use of different kinds of pot-herbs not only gives a relish to the daily dish, but is even necessary for the upkeep of health. Any one, however, who has noticed the nature of the vegetables at present imported into Calcutta, must have seen that enormous quantities of these 'sags' find a ready sale. The chief recommendation of the pot herbs is that some of them grow naturally in the homestead lands, tanks, jheels, etc., or may be grown with the least expense and troubles. In former times they were not generally brought to the bazar as nobody would care to buy a thing which may be had for the mere asking from a neighbour. Scarcity of food-stuffs and high prices are responsible for the growing demand for this class of vegetables. For the want of means to buy high priced vegetables in sufficient quantities, poor and middle class Indians are now a-days replacing these to some extent by "sags".

In Ayurvedic works, specially of a later date, the medicinal properties of several pot herbs have been described. But their dietetic value in the light of the recent discoveries about nutrition and growth, remains yet to be investigated. Generally it may be

said that all the vitamines are derived directly or indirectly from vegetables, although there are few among them, like tomato, which contain all the three. It is however a common knowledge that vitamine A without which children can not grow and which is also needed by grown-up folks is found plentifully in leafy plants to which class most of the 'sags' belong. All sags may therefore be considered to possess this class of vitamine. As we go on considering the different kinds of pot herbs we shall see what other qualities they possess in addition.

Some of the pot-herbs are very widely distributed and have been used from time immemorial, e. g. the goose-foots Under the name of "Bathua", *Chenopodium Album* is found throughout India up to a height of 12000 ft. on the Himalayas, in both cultivated and wild forms. Some varieties attain a height of about 9 ft. Besides the edible leaves, 'Bathua' yields a grain which is very nutritious and is used largely by hill-people in the place of rice. The leaves are rich in potash salts. Almost equally ubiquitous are the Amaranths, of which too there are particular varieties in particular localities. Amaranths are both annual and perennial, the former being known in Bengal as 'Dengo' and the latter as 'Notiya'. From the thick-stemmed *Amaranthus oleraceous* of a height of 5-8 ft. to the smallest *A. polygamous* (notiya) raising its head a couple of inches above ground all the amaranths are in good demand and are consequently very common in Indian markets. Notiya is regarded as easily digestible and good for convalescents. The arid tracts of the Central and Western India grow no Amaranths but as we ascend the hills of the North West Himalayas we find fields of *A. paniculatus* (ganher) and *A. caudatus* (Ramdana) blazing in all their glory and lending colour and light to the otherwise drab hill-side. It has been said of the 'Ganhar' seeds which are quite trivial things to look at, that there is hardly any grain to match it as a perfectly balanced food.

The true spinach, *Spinacea oleracea*, is met with throughout the hills and plains, although the leaves are much reduced in size in high altitudes. The Mohomedans who introduced it into India from Persia hold it in high esteem as one of the most digestible and wholesome of vegetables. Chemical analysis of spinach shows that besides a large quantity of mucilage it contains a large proportion of nitrogenous matter. Radish is specially grown for use as a pot-herb in Bengal and the leaves are undoubtedly diuretic. In the United Provinces and Bihar the boiled young leaves with salt and

pepper form the only vegetable in the dietary of a large number of families during the radish season. The use of mustard leaves is equally extensive, bread of Indian corn meal and mustard leaf 'bhaji' being the favourite food among the 'paharis'.

Another pot-herb which may be found in nearly all the bazars is Kachu, *Colocasia antiquorum*. The leaf-stalks and leaves attain a large size in some varieties, the 'sar or 'Jal Kachu' of Bengal being about 4—6 ft. high and 6 in. thick at the base. There are numerous preparations of Kachu leaves, the stalks being generally peeled before cooking. The young shoots of 'Dhaniya' (coriander), Pudina (mint), methi (fenugreek) and 'sulfa' (dill) are seen in many markets both in the north and south of India, but they are more appreciated in the United Provinces and the Punjab than anywhere else.

The acid leaves of the Indian Sorrel, *Rumex vesicarius*, 'Chuka palang,' grown in the neighbourhood of large towns and found semi-wild in the hills are relished by many as an appetising and cooling food. This pot herb is considered to be of special use in the heat of stomach. The aquatic plant 'Kalmi', *Ipomoea aquatica*, and 'Susni' (*Marsilea quadrifida*) grow in pools of standing water; the former is eaten both in stews and curries, and the latter plant is said to possess the virtue of inducing sleep like lettuce. The fresh juice of the Kalmi, it should be noted, is emetic. The pot-herbs mentioned above are of wide occurrence. There are others, however, which, though not less well-known, are restricted to particular localities, e. g., the Indian Spinach (*Basella alba*), 'Pooi, which is plentiful in Madras and Bengal. The vines often grow to a great size and with their thick leaves afford a good shade when trained on the porches of houses. Besides their use in the table, the leaves are sometimes boiled and used as poultice. Pooi is not much inferior to Spinach in nourishing properties. The succulent leaves of the common Purslane, 'nooniya sak' are used as pot-herb by the poor people. There are two species of Portulacea, viz., *oleracea* and *quadrifida* called respectively 'Bara' and 'chhota Nunia'. The leaves contain acid potassium oxalate and mucilage. This pot herb is much more common in the vegetable markets of the Southern than Northern India.

The young tops and shoots of the field crops—'Chena', 'Matar' and 'Khesari' as well as of the garden crops—Pumpkin and bottle-gourd are brought to the market in huge heaps and find ready purchasers, the tender stems of 'Lauki' being considered as appetising

for convalescents. It is also said to be useful in jaundice. 'Sajna' (*Moringa Pterigosperma*) is a useful tree as all its parts—leaves, flowers and fruits are utilised in one culinary preparation or another. Onion leaves are not used by all, but they are none the-less in demand throughout the winter season. Its young flowering stalks ('Piaj-Kali') are rich in vitamine C. The species of beet peculiar to Bengal, *Beta bengalensis* is a much-prized pot herb. It often attains a height of 4—5 ft. in rich soil. Its nutritive qualities are akin to those of spinach.

Last of all we should not forget to mention pot herbs like the tops of the palwal and 'Hincha' (*Enhydrus fluctuans*) plants which are generally eaten for their antibilious and stomachic properties. The use of such bitter pot herbs along with ordinary food is mostly confined to Bengal. Considering that the pot-herbs mentioned above form an appreciable proportion of the daily food of the great majority of the people of Bengal, their dietetic value should be investigated and the growing of the more nourishing plants among them encouraged. At present we have got only a vague idea of this subject and we may look forward to our medical men of all schools to collect data about the food-value of the sags and bring them before the public so that the people may select their food intelligently.

Reviews and Notices of Books.

LISTER AND THE LIGATURE

A landmark in the history of modern surgery compiled by the research readers of the Scientific Department of Johnson & Johnson, New Burnswick, N. J., U. S. A. Ninety-four pages. Illustrated.

The research workers state that having lived through the years covering the re-introduction and re-birth of surgical ligatures and sutures, they have put together the story of the re-introduction and re-birth of this important surgical material.

The first part of the book covers briefly the period before Lister, the time of Lister, and after Lister, leading up to the main portion of the book which contains extracts from the writings of Sir Joseph Lister relating to the ligature. The book contains in full the story of Lister's connection with the ligature taken from the publications in which his writings appear. In addition there is given a complete bibliography of Joseph Baron Lister collected from the journals in which the articles appeared. In the extracts from Lister's writings are reproduced a number of drawings made by Lister himself. The illustrations also cover a portrait of Lister, a picture of Lister's famous spray apparatus, a bas relief of Lister in the Policlinico Umberto I, Rome, Lister's Medallion in Westminster Abbey.

THE NADI SYSTEM IN AYURVEDIC MEDICINE, UPANISHADS AND TANTRIC LITERATURE

BY

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(Continued from our last issue).

(VI) Ten principal *nadis* have been enumerated in (1) Trisikhibrahmanyupanishad, Yogachuramanyaupanishad and in several treatises on sphygmology.

(1) कन्दमध्ये स्थिता नाडौ सुषुम्ना सुप्रतिष्ठिता ।

पश्चस्त्रप्रतीकाश कर्जुरुर्द्विप्रवर्त्तिनो ॥

ब्रह्मणो विवरं यावद्विद्युदाभसनालकं ।

वैष्णवी ब्रह्मनाडौ च निर्वाणग्रासिपङ्गितः ॥

इडा च पिङ्गला चैव तस्याः सव्येतरे स्थिते ।

इडा समुत्तिता कन्दाहामनासापुटावधि ॥

पिङ्गला चोत्तिता तस्माद् दक्षनासापुटावधि ।

गाम्यारौ हस्तिजिह्वाच दे चान्ये नाडिके स्थिते ॥

पुरतः पृष्ठतसास्य वामेतरटुशी प्रति ।

पुषा यशःस्थिनो नाड्यौ तस्मादेव समूत्तयोते ॥

सव्येतरश्चुतावधि पायुमूलादलभ्वुमा ।

अधोगता शुभानाडौ मेट्राक्तग्रावधिरायता ॥

पादाङ्गुष्ठावधि: कन्दादधोयाताच वै शिकौ ।

दशप्रकारभूतास्ताः कथिताः कन्दसम्भवाः ॥

In Trisikhibrahmanyupanishad the following *nadis* are enumerated (with short notes on distribution):—*sushumna*, *ida*, *pingala*, *gandhari*, *hastijihba*, *pusha*, *yasaswini*, *alambusa*, *suva* and *kausiki*.

In Yogachuramanyaupanishad, the following *nadis* are mentioned : - *ida*, *pingala*, *sushumna*, *gandhari*, *hastijihba*, *pusha*, *yasaswini*, *alambusa*, *kuhu*, and *sankhini*. Short notes on their

(digestive), and to the entire body; they are full of deranged *dhatu*s (principles); in them (that) the vayu travels; they are uniformly thick (that is, cylindrical) slender, innumerable and are the seats of Yoga of the living; they are uniformly deep (of the same diameter), are spread out and remain full of vayu.

The *dhamanis*, as described in the text, evidently mean arteries.

(5) In the following passages we find a broad classification of the *nadis* and the general characteristics of the different groups.

सार्वत्रिकोन्यो नादोहि स्थूला सूक्ष्माश देहिना ।

नाभिकन्दनिवद्धास्तास्तिर्थ्यगृह्ण मधः स्थिताः ॥

— Nadi-bijnana (II. 4); Nadiparijnana
bidhi (II. 8); Nadiprobodha (II. 36)
Nadiprakasa (II. 38).

हि(हा)सप्तिसहस्रन्तु नासां स्थूलाः प्रकोर्त्तिताः ।

देहेषाभन्यो धन्यास्ताः पञ्चोन्द्रियगुणावहाः ॥

— II. 4, II. 18, II. 36, II. 38.

हाटशभिर्दिगुणाभिरसूभिर्व्यस मिदं नृशरीरमशेषं ।

नाभिरमी कफपित्त समोरास्ते बपषि प्रवहन्ति शिशाभिः ॥

— Kalajnane Nadipariksha (II. 1)
Nadi-parijnana (II. 17),
Nadi-pariksha (II. 27), II. 36.

नासां सूक्ष्मशुषिराणि गतानिसप्त

स्थूलानि यैरसक्तदन्तरसं बहङ्गः ।

आप्यायते (आप्यथते—II. 19) वपुरिट् हि नृणाभमीषां

अन्तः सूवङ्गिरिव मिञ्चुशते समुद्रः ॥

— II. 4, Nadiprobodha (II. 36), Nadi-
pariksha-nidana (II. 34), Nadi-
pariksha (II. 26), II. 38, II. 1.

आपादतः प्रतनगात्रमशेषमेषा

माभसुकादपिच नाभिपुरःस्थितेन ।

[पादप्रभृत्यखिलगात्रमिदं गरोरमासस्तकादपि

च नाभि मुङ्गवेन—II. 17]

एतद्मृदङ्गर्द्वं चर्मचयेनवदं

कायं नृणामिह गिरागतसप्तकेन ॥

— II. 4, II. 27, II. 18, II. 17, II. 38, II. 1.

(3) सन्धिवस्थनकारिणो दोषधातुवह्नःः शिराः
 धमन्योरसवाहित्यो धमन्ति पवनं तनौ ॥
 रक्तवाहि शिरामूलं प्लीहा ख्यातं भविष्यतः ।
 यक्तद्रजतपित्तस्यस्यानं रक्तस्यसंशयं ॥
 जलवाहिशिरामूलं टुषाच्छादन कान्तिदं ।
 ब्रक्कापुष्टिकरा प्रेक्षा जठरस्तस्य मेदसः ॥
 वौजवाहिशिरा धारौ वृषणौ पौरुषवह्नौ ।
 गर्भाधानकरं लिङ्गमनयो वौजस्त्रयोः ।

Nadi-bijnaniya.

The *siras* are the binders of the joints and carriers of derangements (of *vayu*, *pitta* and *kapha*). The *dhamanis* are carriers of fluid (blood), through which the *vayu* blows in the body. The root of the blood-carrying *siras* is called *pliha* (spleen) by the sages. The *yakrit* (liver) is the place of whitish (that is, mixed with chyle?) bile, the shelter for blood and is the root of water-carrying *siras* and gives rise to thirst, covering and beauty. The *brikka* (kidney) is said to be invigorating the stomach from its fat. The two semen-forming male element-producing testicles are the place of origin of the germ-carrying *siras*; the penis is the impregnator from these two germ-threads.

It is evidently seen here, that the *siras* are carriers of the derangements (that is, of *vayu*, *pitta* and *kapha*), of blood (hence are blood-vessels) and of carriers of fluid and germs (hence are ducts) and hence the term is very loosely applied here as all the various functions are assigned to these *siras*. The *dhamanis* conduct the *vayu* through the body, and hence are to be considered as arteries. It may be that *siras* are to be taken as carriers of *pitta* and *kapha* only. If that be so, we come back partly to the very ancient hypothesis. The treatise itself seems to be a very old one.

(4) मृगालनालिकारूपा सूतोगाः सर्वेऽहगाः ।
 दोषधातुमन्त्रादूर्णा वातसञ्चार वाथयाः ॥
 समस्युलक्षणन्ता जीवानां योगसाम्रिताः ।
 समगभौराश्वीन्ताना वर्तन्ते बायुपूरिताः ॥

Nadiprabodha.

The *dhamanis* (see the origin of *dhamanis* under V, origin of *nadis*), resembling the hollow stalks of the lotus, extend to the canals

(1) पत्तेखा समाभिन्ना सूक्ष्मा च पुरुषाश्रिता ।
 वर्णो च विवधैर्युक्ताः सप्तधातुषु संस्थिता ॥
 दोषास्यदक्षियाधारास्त्वलास्त्वालता इव ॥
 स्थलावृत्ताः यन्त्रिलाः स्थुलमूलसंकीर्णश कौर्ण व्यक्ता सरन्ध्राः ।
 सूक्ष्माग्राधस्तिर्थगुर्ह्वं प्रयाता सर्वज्ञे सर्वसम्यागताश्च ।

Nadi-bijnaniya.

The *nadis* are divided like the veins of a leaf, are fine (like them), are distributed in the body, are provided with various colours, and are placed in the seven *dhatus* (primary tissues); they are carriers of derangements, are holders of functions and are running like creepers. They are stout, cylindrical and knotted; they are gradually narrowed down from a broad base, and are apparently scattered, provided with a calibre, are fine at the termination and extend to all parts of the body in a downward, lateral and upward course and are continued to all the joints.

Such a definition can only be applied to a vessel.

(2) नाडोरन्धेषु मर्वेषु संचरं प्राणामरुतः ।
 दोषैरयुक्तः सुखकृद् दोषयुक्तो गटवहः ॥
 तत्प्रधानं नाडासु पञ्चैताः संस्थिता स्त्रनौ ॥
 सुख्यास्त्वयस्त्रिदोषात् च दोषज्ञानप्रवोधकः ॥
 येताधोर्ह्वं सुखाः सूतपञ्चकं मणिवन्धयुक् ॥

Nadi-bijnaniya.

The *pranayu* (life-force) travels in the calibre of all the *nadis*. They indicate health, if free from any derangement, but are carriers (indicative) of diseases, if affected with derangements (that is, deranged vayu, pitta and kapha). Of these, five are the principal ones, and these are placed in the body trunk ?). Of these, three are eminent owing to being carriers of three types of derangements and being capable of giving an idea of the derangement. Those which are directed upwards and downwards are connected with the wrist and are known as “*sutrapanchaka*” five cords (or threads).

There is an undoubted confusion between a pulsatile vessel and a nerve cord in this passage. The first five lines indicate an artery, whereas the last line points to a cord—a solid structure. These “*sutrapanchaka*” have already been mentioned before, namely *ida*, *pingala*, *sushumna*, *subala* and *bala* (*vide supra*).

distribution are found in later passages. The same set of nadis is mentioned in Nadibijnaniya (II. 6), Nadipariksha II. 27). In Nadyuttpatti (II. 47), the name of *saradi* (*saraswati*) is given in place of *yasaswini*. In this connection a passage may be quoted from Nadibijnaniya (II. 6).

इडाच पिङ्गला चैव सुषुम्ना सवलाबला ।
येतत् पञ्चैक मंयुक्तं स्वतं रज्ज्वामकं महत् ॥
अधोभागे ह्लस्त्रिरुद्धं सर्वस्यानेषु तिष्ठन्ति ।
इडादि त्रयस्त्रुत्यं द्वयमन्यदधोगतम् ॥

The *ida*, *pingala*, *sushumna*, *sabala* and *bala* are fine cordlike structures (threads). Of them, two are placed in the lower part and three in the upper part, thus in all parts of the body. The *ida*, *pingala* and *sushumna* are upcoursing and the other two are downcoursing. It is quite clear that the spinal cord, the two sympathetic nerve cords and the two sciatic nerves (*sabala* and *bala*) are meant by these fine structures.

(vii) Only nine nadis are enumerated in the first chapter of Vaidyashastra (I, 4). The nadis are (1) *ida*, (2) *pingala*, (3) *sushumna*, (4) *pusha*, (5) *alambu*, (6) *gandhari*, (7) *gajajihba*, (8) *kuhuka* and (9) *sankhini*.

इडायां पिङ्गलायां वा वसेत् नाडिकाश्चया ।
सुषुम्ना तालुमार्गेन ब्रह्मरन्धे वसेत् सदा ॥
पुषालम्बुरितं चैव चक्षुद्वारे वसेत् सदा ।
कुइका गुटयोमध्या शङ्खिनी लिङ्गरन्धके ॥

(viii) Only eight nadis are enumerated in two treatises, Kalajnane nadi pariksha and Nadipariksha (II. 26).

इडा च पिङ्गलापुषा सुषुम्ना शङ्खिनी कुइ ।
गाम्भारी गजजिह्वा च नाडौ स्यादष्टधा नृणां ॥

The nadis are *ida*, *pingala*, *pusha*, *sushumna*, *sankhini*, *kuhu*, *gandhari* and *gajajihba*.

(2) *General Characters of Nadis.* The general characters of *nadis* according to the Ancient Ayurvedic works have already been dealt with, of course, in the names of *siras* and *dhamanis*. We shall now deal with the subject as depicted in the treatises on sphygmology and general sanskrit works. In many works we find the nadis differentiated into *siras* and *dhamanis*, different characters (including functions) being assigned to them.

तेनानुगम्य वपुरेतदनेन दीषान्

कुर्वन्ति तु कफपित्तपबनादयेऽमी ।

रोगान् शेषान् वपुषि चथ वर्षि कार्पे

जौर्षांनु त्रा इच्छिदथावयवान्नरेषु ॥

—II. 17, II. 4.

प्रसारण कुञ्चनादि क्षियाभिः सतततनौः ।

नाञ्चएवोपकुर्वन्ति ताः स्युः सप्तशतानि तु ॥ II. 1.

सप्तशतानां मध्ये चतुराधिकाबिंशतिः स्फुटाः ।

तासामेकैव परोज्ञाणोया या दक्षिणकरचरणबिन्यस्ता ॥

— II. 1, 11 4.

There are thirty-five millions of *nadis*, stout (thick) and slender (fine), in the body. They are fastened to the lump in the naval region and they spread upwards, downwards and lateralwards. Of these 72000 *nadis* are said to be stout (solid ?) and are known as *dhamanis*; they carry on the functions of the five organs of senses. (Of the total number of *nadis*) twenty-four *nadis* spread out in the body of man; and the *vayu*, *pitta* and *kapha* flow in them. Of them, there are 700 *nadis* with a fine calibre, which are concerned in carrying away the chyle for the nourishment of the body. As the sea is fed by hundreds of rivers, so this human body is nourished by these internal secretions. The body of man is bound down, as a *mridanga* (a musical instrument) by the cords of skin, by 700 *siras* which from in front of the navel extend from the feet to the head. The *vayu*, *pitta* and *kapha* following them in the body, give rise to derangements and various diseases in the body. By continuous contractility and expansibility in the body, the *nadis* nourish the body and there are 700 of them. Of these twenty-four are distinct and of them, one, extending from the right hand to leg, is to be examined.

Thus we come to see in the above passages that the *nadis* are divided into *dhamanis* and *siras*. The *dhamanis* are meant for nerves, whereas the *siras* are to be considered as arteries. The *nadis* with a fine calibre might be the arterioles and venules, as it is highly improbable that lymphatics were recognized by these authors.

(6). We now come to consider some passages dealing with the colour of *nadis*.

(1) अतनाडो सुषुक्तातु नाडीभिद्दर्शभिर्गृता ।

अत पोताश्वरक्ताश्वकणा स्त्राभ्राति लोहिताः ॥

अति सूक्ष्मज्ञ तण्णीज्ञ शुक्रां नाडौ समाश्रयेत् ।
तन्नसज्जारयेत् प्राणानृणाभेव तन्तुषु ॥

Kshmikopanishad.

(2) अथ या एता हृदयस्य नाद्यन्ताः पिङ्गलस्याशिङ्ग मिष्ठन्ति
शुक्रस्य नौनस्य पौतस्य लोहितस्येत्यसौ वा ।

Chhandogyopanishad.

(3) पतंत्रं संस्थिता नाडे । नानावणाः समीरिताः ।

Varahopanishad.

(4) कण्ठरा वन्धनौ स्नायु स्नोतसि मुतश्कयोः ।

अस्थिरम्बु तथान्तर्ज्ञ पोताभाः परिकोर्त्तिः ॥

धमनीरक्तवर्णाच्च क्षावर्णा गिरा भवेत् ।

खासनाडौ भवेत् ताम्बा पेशी नाडातिलोहिताः ॥

रसस्नोतः खेताभज्ञ नियतज्ञ गरोरिणां ॥

(1) Here lies the *sushumna* surrounded by ten *nadis*; these are yellow, red, black, copper-coloured, deep red (*nadis*) in this place. You should get hold of the fine, slender and white *nadis*, as the life, (force) travels in these fibres which are, like the threads of a spider.

(2) The *nadis*, which are placed in the heart, are filled up with minute particles of brown, white, blue, yellow or of red colour.

(3) The *nadis* are placed like a *pata* (coloured picture); they are said to be of various colours.

(4) The tendons, ligaments, ligamentous cords, ducts for the passage of urine and semen, cavities of bones and the intestines are said to be yellowish; the *dhamanis* are blood red, the *siras* are blue; the windpipe is copper-coloured; the *peshinadis* (muscle fibres) are red; the ducts for the passage of fluid are whitish in colour.

3. *Distribution of Nadis.* The distribution of *nadis* may be considered under two headings, *general distribution* and *distribution of individual nadis*.

We have the following texts on the general distribution of *nadis*.

(1) गिरःसु पञ्चमे नाडौ गलस्या सप्त सप्तधा ।

चतुःषष्ठ्यास्ति नाडिका हृदि ॥

उदरेप्रवर्त्तिता नाडौ चौराशिति ।

कन्द (कटि) देशस्थिता नाडौ कुटिना पञ्चविंशति ॥

मर्मस्था नाडिका नाडौ षोडूगी शौभ्रगामिनौ ।
अन्यातु विकृतिर्नाडौ विभज्याष्टशतैः शतैः ॥
पादान्तरञ्च गुलफञ्च स्थिता नाडौ च प्राणगाः ॥

Nadilakshana (II. 14).

(2) मूनाधारे विधिग्रन्थि तत्रवाताशयः स्मृतः ।
हृदम्बूजे हरिग्रन्थिस्तत्र पित्ताशयः स्मृतः ॥
कण्ठदेशे हरयग्रन्थि स्तत्र श्वेषाशयः स्मृतः ।
मूलकण्ठात् समुद्भुतो नाडो वहुविधास्मृतः ॥
तम्भ्ये त्रिणि च शेषा ब्रह्मविशुगिवातिमाः ।
तन्मन्थे चोक्तमा नाडो सुषुम्ना सूक्ष्मरूपिणी ॥
वाताशयाद्विनिर्गत्य पित्तस्थानमुपेत्य च ।
पित्तशयाद्विनिर्गत्य श्वेषाश्यानमुपेत्य च ॥
श्वेषाशयाद्विनिर्गत्य पश्चिमं मार्गमाश्रिता ।
सहस्रारं ततः प्राप्य चाधोभागे प्रविश्य च ॥
फलदेशे द्विधाभूत्वा है कर्णो च समाश्रिते ।
कण्ठदेशाद्विनिर्गत्य ते नाडो भुवमाश्रिते ॥
भुवोर्मध्यादधोदेशे नासिका पार्श्वयो तथा ।
निर्गत्य कण्ठमापन्ने ते नाडो द्विप्रकारिके ॥
चतुर्भुत्वातु ते नाडो वाहुसुले समाश्रिते ।
निर्गत्य बाहुमूलाश्यां मणिक्षान्तमेवच ॥
हस्तयोर्मणिवन्धौ च प्राप्य नाडोहयं तथा ।
वातादिकस्य संङ्घाचलदाह्याङ्गुलमायतः ॥
रोगारोगैकक्षेषु भूत शृणु पार्वति मद्वचः ।
पुनर्द्वे नाडोऽधोदेशाद्विनिर्गत्य च पार्श्वयो ॥
मार्गप्राप्यकटे देशात् गुलफपर्यन्तमागते ।
गुलफस्थानेतु विश्रम्य जातो रोगप्रदर्शते ।
मर्णवस्थमलेतु नाडौ स्फुरणमुच्यते ॥

Nadibijnaniya.

- There are five *nadis* in the head, seven on each side of the neck, sixty-four in the heart, eighty-four in the abdomen, twenty-five *kutila nadi*s in the loins, and sixteen rapidly moving *nadis* in the vital parts (*marmasthanas*). The others, known as *bituiti*

nadis, divide repeatedly into eight hundred branches and are placed on the inner sides of the legs and ankles ; they are indicative of life.

2. The *bidhigranthi* lies in the *muladhara* (saeral region), where is placed the *vatasaya* (the place of origin of *vayu*). The *harigranthi* lies in the cardiac region, where is placed the *pittasaya* (the place of origin of *pitta*). The *haragranti* lies the neck, where is placed the *sleshmasaya* (the place of origin of *kapha*). There are numerous *nadis* known to have their origin in the *mulakanda* (the pelvic region ; of these three are pre-eminent and known as *brahma*, *vishnu* and *siva nadi*. Of these, the last one is the finely appearing *sushumna* (spinal cord). Coming out from the *vatasaya*, and entering the *pittasthana*, emerging from the *pittasthana* and coming to the *sleshmasthan*, and emerging from the *sleshmasthan*, it enters the *paschima marga* the dorsal path—vertebral canal and reaches the *sahasrora* (brain). It then takes a downward course and comes to the frontal region, where it bifurcates into two branches, each passing to one ear. Leaving the ear, the branches reach the eyebrows. Passing downwards from between the eyebrows and along the sides of the nose, they reach the neck, one on either side. They now become four. Two *nadis* pass to the root of the arm and extend to the end of the wrist. Receiving the names of *vayu* etc. (that is, *vayu*, *pitta* and *kapha* *nadi*), it passes to the tip of the external finger. The other two *nadis*, coming out of the lower part of the body and the sides, extend, from the buttocks to the ankles, where each indicates disease by stopping. The *nadi* at the wrist shows pulsation.

There is a great confusion between the nerves and arteries in this passage on the general distribution of *nadis*. The spinal cord has been traced through the spinal canal and taken to have run from the region of the *saical plexus*, (thought to be the place of origin of *vayu*) past the region of the origin of the *splanchnic nerves* (thought to be the place of origin of *pitta*) and the neck (the region of the brachial plexuses thought to be the seat of origin of *kapha*, perhaps from the accumulation of mucus in the throat before death). The spinal cord is traced to the brain and then the olfactory lobes are probably taken to be continued from the spinal cord. The remaining structures are undoubtedly the pulsatile vessels and those the courses of which are more imaginary than real.

(To be continued.)

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KRIMIS IN AYURVEDA

BY

ASHUTOSH ROY, I. M. S., Hazaribagh.

(Continued from last issue.)

II

Vermifuge Combinations.

These consist of one or more of the above drugs combined with others to combat symptoms

(1) SIMPLE VERMIFUGE JOGA (COMBINATION).

- (a) *Jamani Joga*—Ptychotis ajowan and Rock salt.
- (b) *Vidanga Joga*—Vidanga (*Embelia Ribes*) mixed with Pepul (long pepper-carminative) and Pineapple-leaf juice.

(2) VERMIFUGE KVATH (decoction).

- (a) *Darimbyadi Kvath*—Decoction of the bark of the root of pomegranate tree—good in worms with loose stool.

- (b) *Mustadi Kvath*.

R/-

Seed of Sajina (<i>Moringa Pterygosperma</i>)	} Specific
Leaf of indurkani (<i>Salvinia cucullata</i>)	
Mutha (<i>Cyprus Rotundus</i>)—Diaphoretic.	
Triphala (The three myrobalans)—Laxative.	
Deodaru (<i>Pinus Deodara</i>)—Carminative	

Good in worms with fever and constipation.

(3) VERMIFUGE "CHURNA" (POWDERS).

- (a) *Vidangyadi churna*.

R/-

Vidanga	} Specific vermifuges.
Kamalaguri	
Rock Salt	} ... alkaline.
Jabakhar (Potash carbonate)	
Haritaki (<i>Embelia myrobalan</i>)—Laxative.	Good in worms with acidity and pain in abdomen and constipation.

(b) *Palasadi Churna.*

R/-

Palas	{	... Specific anthelmintics.
Indrajab		
Vidanga	{	... Antifebrile bitters.
Neem		
Chiretta		

Good in worms with fever.

The bitters by improving the condition of the mucous membrane of the G. I. tract, make it unfit for the habitat of worms. They thus act as indirect vermifuges.

(c) *Parasiyadi Churna.*

R/-

Ptychotis ajowan (Persian)	{	... Specific vermifuge.
Vidanga		
Pipul (Long Pepper)—Carminative.		
Mutha (Cypress Rotundus)—Diaphoretic.		
Aconite—Specific antifebrile		
Kakra-sringhi (Rhus Succidanea)—Expectorant.		

Good in worms with fever, indigestion and cough.

(4) ANTIPARASITIC VERMIFUGE COMBINATIONS.

These contain both antiparasitic remedies and vermifuges with other symptomatic drugs.

(a) *Krimimudgar Rasa.*

R/-

Ptychotis ajowan (wild variety-Sesile Indicum)	{	Specific Vermifuge.
Vidanga		
Palas		
Mercury and Sulphur—	{	Antiparasitic
	...	for blood parasites
Purified Kuchila—Nuxvomica—Bitter stomachic		
Good in worms and several blood parasites with constipation.		

(b) *Krimi-Kalanal Rasa*

R/-

Vidanga—Specific Vermifuge.
Mercury and Sulphur—Antiparasitic.
Aconite—Specific antifebrile.
Iron Haematuric tonic (tones muc. membrane).

Good in worm affecting the liver and causing jaundice and in blood parasites with constipation and ulceration in eye and throat.

(c) *Krimirogari Rasa.*

R/-

Mercury and Sulphur—Antiparasitics.

Iron—Tonic, (tones muc. membrane)

Aconite—antifebrile.

Mutha (C. Rotundus)—Diaphoretic.

Three Myrobolans—Laxative.

Trikatu—Carminative.

(Three acrids or astringents)

Aknadi (Ciasempelos Pariera)

Bala (Pavonia odorata)

Bael Sut (Pulv. Ægle marmamelo)

Dhaiphul (Woodifolia floribunda) ...

Lead ...

} ... Astringents.

do

do

With juice of Bhimraj (Verbesina Calendulaceæ) do

Good in blood parasite causing jaundice or dysentery.

It contains no vermifuge.

(d) *Krimi-dhuli-jalaplabha Rasa.*

R/-

Mercury and Sulphur—Antiparasitic.

Haritaki—(E. myrobalan)—Laxative.

Banga (Tin)—Diuretic.

Sankha bhasma (calci-carbonate)—Alkaline.

Good in blood parasite causing jaundice, urinary trouble and acidosis—It contains no vermifuge.

(e) *Kitamardda Rasa.*

R/-

Mercury and Sulphur—antiparasitic.

Wild ajowan } ... Specific vermifuge.

Vidanga

Nux Vomica—Bitter stomachic.

Bamanhati (Clerodendron Siphonanthus)—Expectorant.

Good in worms and blood parasites with fever, cough and indigestion.

(f) Krimibilas Rasa.

R/-

Mercury	{	... antiparasitics.
Sulphur		
Turmeric		
Vidanga—Sp. vermifuge.		
Iron and Mica—Haematenic.	{	... astringent.
Realgar (arsenic)—Antiparasitic, good in chronic fevers.		
Dhaiphul (W. floribunda)	{	... astringent.
Lodh (Symplocos Racemosus)		
3 myrobalums—Laxative.		

Good in intestinal and blood parasites with chronic irregular fever and indigestion.

(g) Kitari Rasā.

R/-

Mercury and Sulphur—antiparasitic.

Realgar (Arsenic)—dō. antifebrile.

Indrajab

Bonjowan } ... Specific vermifuge.

Palas

With juice of Ghoshalata (Luffa amara)—vermifuge.

Give with juice of Mugani (Phaseolus Roxburghii) and sugar—as vehicle.

Good in intestinal worms and blood parasites with chronic irregular fever.

(h) Krimighna Rasa.

R/-

Vidanga }

Palas } ... Specific vermifuge.

Neem —antifabrire bitter

Rub with juice of musikaparni—vermifuge.

Good in worms with fever—It contains no antiparasitics.

In the above combinations we find some that are pure vermifuges, some pure antiparasitics, others combination of vermifuges and antiparasitics.

Of the symptomatic drugs—Aconite is used in acute and Arsenic in chronic fever. Besides we have laxatives, astringents, diuretics, diaphoretics, haematenics, etc.

5. ANTIPARASITIC VERMIFUGE ABALEMA.

(a) *Haridra Khanda.*

R/-

Turmeric—antiparasitic.		
Palida madar		
Ptychotis ajowan—2 varieties		
Somraj		
Vidanga		
Palas		
3 Myrobolans		
Teori (Convolvulus Turpetum)		
Danti (Baliospermum montana)		
(Mutha) c. Rotunda—Diaphoretic.		
Carraway		
Trikatu		
Renuka (Piper aurantiacum)		
Lalchitra (Plumbago Rosea)		
Rock salt—		
Nishinda (vitex Negundo)		
Vasak (adhatoda vesica)		
Aknadi (Cissampelos Pariera)—Astringent.		
Shyamalata (variety of Hemidesmis) ... Alterative.		
Neem—Antifebrile.		
Hemidesmis		
Sugar and ghee		

Good in skin, intestinal and blood parasites causing malignant boils, sinuses, ringworm, impetigo, urticaria, abscesses, leucoderma, and is a good general tonic.

(b) *Brihat Haridra Khanda.*

It contains

Antiparasitic—Turmeric, and its wild variety (Berberis Asiatica).

Vermifuge—Vidanga, ajowan (2 varieties).

Tonic—Iron and mica.

Laxative—3 myrobalan, Ipomoea Digitata (Teori).

Diaphoretic—C. Rotundus (mutha).

Diuretic antifebrile—Gulancha (Tinospora cordifolia).

Expectorant—Vasak (adhatoda vesica).

Carminatives—La'chita (P. Rosea) Kathki (P. Kurrosa)
 Black caraway, Long Pepper, Ginger, cinnamon,
 e. Tamla (Tripatra) cardamom, chai
 (Piver chava) coriander

Stimulant Expectorant—Kur (aplotaxis auriculata).

Sugar

Indication as above.

6. ANTIPARASITIC & VERMIFUGE PILLS (GUTIKA).

(a) *Krimighatini Gutika.*

R/

Mercury and Sulphur—Antiparasitic.

Wild Ptychotis } ... Specific Vermifuge.
 Keu }

Bamanhati—(Clerodendron Siphonanthus)—Expectorant.

(b) *Krimibhadra Gutika.*

R/

Vidanga
 Ptychotis } ... Specific Vermifuge.
 Palas

Neem
 Palta (Leaf of Tricosanthus Dioica) } ... Bitter.

Sankha Bhasma ... Antacid.

Mutha (C. Rotundus) ... Diaphoretic.

Kata Natia (Amaranthus Spinosus) ... Diuretic.

Champa leaf (Michelia Champak) ... Carminative.

Silver ... Nervine.

Kur (A. Auriculata) ... Aromatic Stimulant.

Sati—Laxative.

It contains no Antiparasitic.

7. HAEMATINIC VERMIFUGE.

Vidanga Lauha.

R/

Mercury and Sulphur—Antiparasitic.

Black Pepper

Nutmeg

Cloves

Ginger

Arsenic—Antifebrile, Antiparasitic.

Borax—Antacid

Iron—Haematinic.

Vidanga—Vermifuge.

Good in worms and blood parasites with chronic fever and other troubles of G. I. tract.

8. VERMIFUGE GHRTAS (IN CHRONIC CASES)

(a) *Vidanga Ghrita.*

Contains besides Ghrita,

Vidanga—Vermifuge

Triphala—laxative.

5 Peppers—carminatives.

Dashamul—specific to check Vayu-Kapha

Rock Salt.

(b) *Triphaladya Ghrita.*

Contains besides Ghee,

Cow's urine—Specific for Liver.

3 Myrabolans—Laxative.

Kamalaguri—Specific Vermifuge.

Bach (acorus calamus)—Carminative.

Danti (Croton Polyandron) } ... Purgative.

Teori (Ipomosa Turpetune) }

(c) *Panchatikta Ghrita*—(Tonic)

Contains besides Ghrita 5 bitters (indirect vermifuge)

3 Myrabolans (Laxative).

TREATMENT OF COMPLICATION IN WORMS.

1. VOMITING.

If with vomiting, round worm is passed give *Kriminasak joga.*

R/

Pith of date palm tree—Specific Vermifuge.

Boil with water and Sugarcandy.

If with vomiting there is cough and hiccough and fever give Pippaladya Lauha.

R/

Vidanga—Specific Vermifuge.

Kur (A. Auriculata)—Stimulant.

Amlaki (E. Myrobalum)—astringent.

Glycerrhiza and dried Grapes or Raisins—Laxative.

Inside of seed of Plum—diuretic.

Long Pepper—Carminative.

Sugar and Iron.

If cerebral symptoms give Swarna Matsandi.

It contains gold, pearl, coral, silver, mica, iron, sulphide of mercury and sugarcandy—Antacid and Stimulant.

If there is vomiting without cerebral symptoms,

Give specially in chronic cases—

Krimibhadra Batika.

Vidangadi Lauha.

„ Ghrita.

2. DIARRHOEA.

If associated with vomiting give—

Kriminashak joga.

Pippaladya Lauha.

Swarna Matsandi.

To check diarrhoea give—

Krimi-kalanal Rasa.

Krimi-rogari Rasa.

If associated with indigestion give—

Grahani-gajendra Batika (carminative)

Maha Gandhak (if with slight fever)

Amritarnav Rasa (if with thirst and burning).

If fever, give—

Kasturi Bhairab

Brihat Kasturi Bhairab

In sub acute and chronic stages give specific vermifuges.

Krimi-bhadra Batika.

Krimi-rogari Rasa.

Vidanga Lauha.

If chronic fever, give suitable antifebrile medicines.

3. COLIC.

Give for pain—

Vidangadi Lauha

Vidyadharabhra (contains vidanga also)

For constipation—give Haritaki Khanda.

4. INDIGESTION.

If constipation—Swalpa Agnimukh Churna

For worms—Krimikalanal Rasa.

Krimi rogari Rasa.

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5. RESPIRATORY TROUBLE.

If constipation—Sringsyadi Churna

Svalpa Agnimukh Churna

For fevers—appropriate antifebriles which check cough.

For worms—Specific vermifuge Rasa.

6. CARDIAC TROUBLE.

If vomiting—Vidangyadi Lauha.

,, churna.

,, Joga.

If indigestion—Grahani Gajendra Batika.

Mahagandhak.

Amritarnav Rasa.

If diarrhoea—Sankha Bati.

Maha Sankha Bati.

If constipation—Swalpa Agnimukh churna.

Barabanal.

If colicky pain—Shankhyadi churna.

Vidangyadi Lauha.

Vidyadharabhara.

To stimulate heart—Medicines containing Arjun (*Terminalia Arjun*) acts like Digitalis.

7. CEREBRAL TROUBLES.

If nasal catarrh—Sleshma Sailendra Rasa.

Mahalakshmi Bilas.

To soothe Brain—Brahmi Ghrita.

To stimulate Brain—medicated snuffs.

Apamarga Taila.

Trikatwadya Nasya.

8. LIVER Trouble.

If Jaundice—Krimi Rogari Rasa.

Krimi Dhuli Jalaplaba Rasa.

Krimi Kalanal Rasa.

9. URINARY TROUBLE.

Give Krimi dhuli Jalaplaba Rasa.

Krimi bhadra Ghrita.

Food—Avoid excess of sweets, bitters are good, avoid foods which produce mucous in the small intestines and constipation in the large Intestines.

SOME CLAIMS OF AYURVEDA.

(Contributed.)

—o—

INTRODUCTION.

The subject of regeneration of Ayurveda is not a political question as some of its critics assume it to be. Long before the advent of the "Swaraj" party Government was approached both in the provincial and Imperial legislative councils for the purpose. No doubt the advent of the "Reforms" gave a further impetus to the question.

With the introduction of western civilization and western education, the educated (in the western sense) class became great admirers of everything western and hated everything Indian. It is no wonder therefore that when the East India Company "tried to adopt the prevailing indigenous system of medicine" it was a hopeless failure.

The dazzle of western civilisation is over for our people who are truly educated. They soon began to see the merits and de-merits of western civilization in every sphere of life, including western medicine. They have also found out that the introduction of western education in toto, can never suit Indian requirements. They therefore are turning to the indigenous system to find out what is in it and are trying to combine the best of the West and the East to suit the special requirements of our continent. Both Indian and European public men, specialists and non-specialists are agreed on this point. This is true of medicine also.

"The public had expected much greater things of him (the Doctor) when European system was introduced into the country. Time however showed that although European surgery and midwifery were incomparably superior, yet in the practice of medicine, the doctor though in some cases superior to the Kaviraj, is very much inferior. In the treatment of many Indian diseases, the doctor was found to be absolutely helpless. He was weighed in the balance and found wanting. People had their faith slackened in him and a reaction came over the whole country. The inevitable result was a revival of the ancient system of medicine"—(Dr. Jadunath Ganguli, B. A., M. B.—Address on a

National System of Medicine for India, Calcutta, March 1911,
—quoted from the Journal of Ayurveda, September 1924)

This remark is all the more significant coming from an Indian Medical man trained in and practising the western system of Medicine.

Most Anglo-Indian medical men cannot think of any other system, except their own as scientific. Patronised by the rulers of their own race, they claim that their system is only scientific. Science is nobody's birth right. They profess complete ignorance of the Eastern system but pronounce judgment on it as unscientific and empirical. It is really deplorable to find this frame of mind amongst these men trained in western scientific ways. Probably it is a matter of policy with them

These Anglo-Indian medical men forget that the subject of medicine is so vast and can be approached from so many different angles, each having a scientific basis though differing in details.

The public are the best judges of the value of a particular system of treatment, for, on the one hand, at times it is question of life and death in some one, dear and near to them, on the other hand, it is always a question of rupees, annas and pies. They want to get the best value for their money, for it is human nature. They cannot be prejudiced and they can judge best by the results.

Analogy we find in the English jury system in the criminal courts of the British Empire. The jurors are selected from those who have no legal training and are therefore not specialists in law. They can therefore take a broader and not a narrow sectarian view.

As in religion so in medicine, there are different sects. The followers of each sect claim that their system is the best. They may profess humility, but practically they are intolerant of the views of others. The same is partly true of medicine.

"The practitioner of western medicine is wont to hold Ayurveda in contempt, but that is simply on account of his ignorance of it."

—Editorial, Indian Medical Gazette, November 1924.

While the die-hards amongst the Ayurvedists pretend that their own system is perfect and impossible of further improvements, the die-hards amongst the followers of western medicine claim that their system alone is scientific.

There is no doubt that "some effete materials have crept into mutilated Ayurveda" but now and then we find a die-hard of the western school making a fetish of all these effete materials (he could not or would not see the vast amount of valuable material in Ayurveda) and pronouncing Ayurveda as worthless.

On the other hand some of the truly scientific Anglo-Indian medical officers as well as some European medical men (who have no personal or monied interest in the question) have spoken very highly of Ayurveda.

With this brief introduction we proceed to consider some of the claims of Ayurveda.

(I)

The subject of regeneration of Ayurveda had been raised in the local and imperial legislative councils long before the advent of the Swaraj party in those councils and hence no political motives can be assigned to the question. Not only was the question not limited to British India but was raised in the native states, where in some cases the response was more favourable. The Indian people are also making successful attempts in several parts of British India and in the Crown Colony of Ceylon to rejuvenate Ayurveda on modern lines.

The question was first raised in the Madras Provincial Council (not in Bengal the birth-place of Swadeshi and Swaraj) on November 26, 1915 by the Hon'ble A. S. Krishna Rao, who moved that "The Governor-in-Council be pleased to direct research and investigation of the Ayurvedic system of medicine with a view to encourage and improve it."

To this His Excellency replied that "members should accept the implicit assurance of Government that whenever Government is able to do so, they would endeavour for it.....That Government won't sleep over the matter."

It is gratifying to note that Madras is only recently successful in this laudable attempt, by the opening of the first official Ayurvedic school, which is a move in the right direction.

This movement for regeneration of Ayurveda was closely followed by practical Bombay (and not sentimental Bengal) where the Hon'ble Mr. Kamat moved a resolution in December 9th. 1915, recommending "the Amendment of the Bombay Medical Act, Section II, so as to enable persons practising the indigenous system of medicine to hold with the sanction of Government

appointment as Medical officers in Municipal dispensaries or other public institutions supported by local funds, conducted according to the indigenous System of Medicine."

His Excellency accepted this resolution and in this connection pointed out "the general interest evinced all over the country in the Ayurvedic question."

It is gratifying to note that this resolution of Hon'ble Mr. Kamat had far-reaching effect not only in Bombay, but in most of the other provinces of India, where Vaidas are acting as medical officers in the Municipal and District Board Ayurvedic dispensaries.

The next move was in the Imperial Legislative Council where we find in March 17th 1916 the Hon'ble Mir Asad Ali Khan moving "that the Government of India in consultation with local governments should investigate the possibility of placing the ancient and Indigenous system on a (modern, scientific basis increasing its usefulness." The Hon'ble the Director-General I.M.S. accepted the resolution on behalf of the Government.

All these took place during the old Bureau days, so the Swarajists cannot be given the credit or discredit for these movements.

With the inauguration of the Reforms a further impetus was given by the able ministers of Bengal and Madras over the movement. While the minister for Bengal Sir Surendranath Bannerjee arranged with his government to issue a Commission to find out the best methods of improving the indigenous system of medicine by his towering personality, the minister for Madras could only get his government's permission to issue a Commission to consider the claims of Ayurveda. The Madras movement has borne fruit as already noted. With the advent of the Swarajists in the Bengal Council the towering personality of Sir Surendranath was removed, and the Bengal Commission has produced a mole-hill out of their mountain of labour, they have re-opened the question, viz. what are the claims of Ayurveda for its official recognition, in the face of the Madras Government's conclusion where no less able and zealous I.M.S. officers were present who keenly watched this movement.

For the issuing of the Madras and Bengal Ayurvedic Commissions, the ministers who are not Swarajists are responsible.

This movement was not limited to British India but extended to the native States, where it received favourable response from

enlightened native chiefs like Travancore, Mysore and Hyderabad. In the latter place for the spread of Mahomedan education and culture, His Exalted Highness has opened the Osmania University with Dr. Ansari as its vice-chancellor. The University has a curriculum of Yunani system of medicines and its study on modern lines.

The Hindus claim that the Yunani or Javan system of medicine is an offshoot of Ayurveda. Europeans on the other hand claim that Yunani is the Arabic name for Greece and Yunani system is derived from the old Greek system of medicine. Whatever be the original source (India or Greece, probably both) the Yunani system developed on parallel lines with Ayurveda and its *materia medica* contains both eastern and western drugs.

The Indian educated community is trying to rejuvenate Ayurveda on modern lines by opening Ayurvedic schools and colleges in the various provinces of India and in Ceylon.

Thus we have the D. A. V. College at Lahore, the Hrishikul Ayurvedic College at Hardwar, the Ayurvedic college in connection with the Benares Hindu University, the buildings of which are nearing completion, the Astanga Ayurvedic College at Calcutta and another opened by the Swarajists, the various Ayurvedic schools and colleges in Southern India and the one recently opened at Ceylon.

Year after year in different parts of India including Ceylon, Ayurvedic congresses and conferences are being held with a view to improve Ayurveda. Hence the question is not a political one.

(II)

The Ayurvedic form of treatment is resorted to by the mass of Indian population in rural areas. Not a few of the Urban educated population resort to Ayurveda in cases where western scientific medicine has been found to be useless. The leading Ayurvedic physicians from big towns command princely fees in attending Indian princes, noblemen and rich people in cases where allopathy fails.

The first and foremost claim of Ayurveda is that over 90 per cent of the rural population resort to indigenous treatment. This had been accepted by all hands, medical and lay, Swarajists and non-Swarajists, politicians and non-politicians, Indians and Europeans.

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This fact is Ayurveda's best claim for regeneration and recognition by the State. Government and its representatives cannot overlook or ignore this claim of the dumb millions of India.

The fact that even the urban educated Indian population sometimes resort to Ayurveda had been stated by Lord Hardinge, the then viceroy of India on a memorable occasion. "It and not western medicine", says the editor of I. M. Gazette, November 1924, "is the medicine of the (Indian) people. "The native practitioners perform a useful service in the villages, more specially in the medical side of practice" is admitted by the B. M. Journal, September 15, 1924.

"Some of the leaders of pure Ayurvedic practice make considerable fortunes out of their calling and when consulted in up-country cases from the large towns, charge heavy fees"—Sir Patrick Hehir in Times' Educational Supplement quoted in the Andhra Medical Journal, December 1923.

Surely people are no fools to pay heavy fees to Kavirajes unless they derive better benefit from them. Every system of medicine has its uses and limitations. Not only none of them are perfect, nay none is superior to the others in every respect. Hence all these various systems of medicine are flourishing side by side and cannot crush the other rivals in the field. Only vested interests cannot see eye to eye with the public.

The late Sir Pardy Lukis on a memorable occasion had stated that "I resent strongly the spirit of trade unionism which leads many modern doctors to stigmatise all Vaidas and Hakims as quacks and charlatans. I shall be always proud of the fact that I was privileged to have the friendship of two such learned men as Nawab Shafa-ud-dowla of Fyzabad and Mahamahopadhyaya Bijayratna Sen of Calcutta." (Speech by the Director-General, I.M.S. in the Imperial Legislative Council, March 1916).

(To be continued.)

VEGETABLE MATERIA MEDICA.

—o:—

APAMARGA AND ITS USES IN AYURVEDA

BY

KAVIRAJ A. C. BISHARAD, VISHAGBHUSAN, M. R. A. S. (Lond.)

—o—

SYNONYMS :—Apamarga, Shikhari, Adhashalya, Mayuraka,
 Markkati, Durgraha, Kipihee, Khanamanjari—
Bhabaprakasha.

Names in different Languages :—

SANSKRIT :—Apamarga.

BENGALI :—Apang, Chirchira.

HINDI :—Latjira, Chirchita, Onga.

TELEGU :—Duchchinikê.

MAHRATTI :—Aghada.

GUJRATI :—Aghedô.

CANARESE :—Uttaranê, Chichira.

PERSIAN :—Kharbasgota.

ARABIC :—Atkam.

MALAYALAN :—Kataláti.

TAMIL :—Na-yurivi.

ENGLISH :—Rough chaff tree.

LATIN :—*Achyranthes Aspera*.—*Linn*.

HABITAT :—Grows abundantly in all parts of India and the Tropics.

PARTS USED :—the whole of the plant, leaves, roots and seeds.

VARIETIES AND THEIR USES :—There are two varieties, white and red, the latter being called Raktapamarga, which, according to *Bhabaprakasha* is described as less effective than the white variety. According to Tantric writers the red variety is more effective in certain diseases, as the fresh juice of the leaves are recommended in controlling hæmoptysis. They also prefer the root of the young plants, collected before they bear flowers.

DOSE :—Roots :— $\frac{1}{4}$ tola to $\frac{1}{2}$ tola. Pulverised seeds :— $\frac{1}{8}$ tola to $\frac{1}{6}$ anna in weight.

CONSTITUENTS :—It contains a large percentage of alkaline ash containing potash—*Khory*.

THERAPEUTIC USES

आपामार्गः सरस्तीक्ष्णोदौपनस्त्रिक्कः कटुः ।

पाचनो रोचनस्त्रिवि कफमेदोऽनिलापहः ।

निहन्ति हद्वजाधार्गः कण्डुशूलोटरापचौः ॥

—*Bhabaprakash*.

It is described as laxative, heating, stomachic, bitter and pungent in taste, digestive, and is prescribed in vomiting, *kaphaja*, and *vataja* diseases, fattiness, heart disease, tympanitis, piles, itches, colic, ascites, etc.

Rajanighantu speaks of the properties of both the varieties in the following terms :—

अपामार्गद्वयं तिक्तं कृमिशीर्षविशेषधनम् ।

बातकं रक्तं मंग्राहि रक्तातिसारनाशनं ॥

Both of the plants are bitter in taste, and are useful in worms, as a snuff in clearing the brain, as an astringent and as a reliable remedy in dysentery.

The pulverised seeds of *Apamarga* used as a snuff induces profuse catarrhal flow from the noses. It is very effective in headache, pain inside the head and hemicrania.

IN PILES.

SUSRUTA recommends the administration of the roots once daily, made up into a paste and mixed with honey and rice water, (water obtained by soaking sundried rice in it overnight). We have found it effective in *pittaja*, and *kaphaja* types of the disease. The expressed juice of the leaves given with honey stops haemoptysis and haemorrhage in piles. In the same type of piles Sharangadhar declares that the pulv. seeds are wonderfully effective when given with rice water.

IN CHOLERA.

जलपीतमपामार्गमूलं हन्त्यादिसूचिकां

—*Bhabaprakash*.

जलपीतमपामार्गमूलं हन्ति विसूचिकां ।

—*Gargapurnam*.

The root of Apamarga prepared into the form of a paste with water and then given as a drink cures Cholera

IN INTESTINAL WORMS.

Sushruta, Uttarasthanam, Chap. 6, recommends the administration of the juice of the leaves for expelling the worms after oil enema.

IN INSANITY.

BANGASEN gives the following formula in the treatment of Insanity :—

Pulv. root bark of the white variety of

Sida cordifolia (श्रीतबला)	...	7 tolas
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Pulv. Apamarga root	...	2 tolas
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Mix and boil on gentle fire with water 54 oz. and cow's milk 18 oz. till reduced to 10 oz. Administer as a drink when cool. It is applicable only in serious forms of the disease.

IN SLEEPLESSNESS.

The following prescription is given in *Hareeta Samhita* :—

काकजङ्घा (Kakajangha,—Lea hirta)*

अपामार्ग (Apamarga) aa

Prepare decoction with water in the usual way and administer.

IN ASCITES.

The following formula given by *Chakradatta* is recommended in ascites :—

R/

Pinus Deodara (देवदार) wood.

Noringa pterygosperma (जियु)

Achyranthes aspera (अपामार्ग)

One drachm each, prepare as paste with cow's urine and administer. It is a very powerful diuretic mixture.

IN CHRONIC DYSPEPSIA.

A well-tried and effective remedy.

Burn reducing to ashes the whole of the plant in a covered crucible. Mix this well in water and let the mixture stand for

* KAKAJANGHA :—*Beng.* Keojheka : *Hindi* :—Masee : *Mahr.* :—Kagachengjhad : *Guj.* :—Aghedi ; *Canarese* :—Jeerechilech ; *Tel.* :—Nala—doocheeneeke. DOSE : $\frac{1}{4}$ tola. In preparing the decoction $\frac{1}{2}$ tola of each of the above plants should be taken macerated and then boiled with 8 oz. water till reduced to 2 oz. and then administered.

24 hours. Then strain through blotting paper and bottle up. Adult dose :—1 oz. with 10 drops of best rosewater. In cases where no other medicine or treatment is tolerated this alkaline water has been found to work admirably.

IN MENORRHAGIA.

Pulv. Apamarga Root taken with honey every morning in $\frac{1}{8}$ to $\frac{1}{4}$ tola doses for a week or so stops excessive haemorrhage in menorrhagia.

IN DYSPEPTIC COLIC.

अपामार्गस्य वैमूलं सामुद्रलवणान्वितं ।

आख्वादित अजीर्णस्य शूलस्य स्यादिमर्दनं ॥

—Gargapuranam.

Pulv. Root of Apamarga and sea-salt taken together cure colic pain resulting from Dyspepsia.

IN EYE DISEASES.

अपमार्गं बिडङ्गच्च सैन्धव नागकेशर ।

सैन्धवेन समायुक्तमन्तिरोगं विनश्यति ॥

Pulv. Apamarga, Baberang seeds, rock salt and dried flowers of Nagakesara (*mesua ferrea*) are prescribed as an internal remedy in eye-diseases.

EXTERNAL USES.

(1) Stops *haemorrhage* from cuts and bruises when the affected part is bandaged with the juice and the leaves prepared in the form of a paste.—*Chakradatta*.

(2) In dropsy the affected parts should be treated with vapour bath from the decoction of *Kokilaksha* (long-leaved balaria) and *Apamarga*.

(3) In *deafness and noise in the ears*—*Apamargakshar Taila* is quite effective as a curative agent. The formula is :—

Sesamum oil	4 seers
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Alkaline water prepared from the ashes of the plant	16 seers
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The ashes of the plant	1 seer
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Boil together till the water is evaporated and then let it cool and strain the oil through a clean piece of linen, and bottle up.

(4) In boils :—ghee or oil prepared with the root of Apamarga in the usual process helps rapid granulation and have been seen to produce admirable result in curing all sorts of sores, boils and sinuses. Clarified butter treated with Apamarga roots possess the most powerful antiseptic-properties.

(5) In ophthalmia—The root should be rubbed like sandal paste with curd and a pinch of rock-salt in a copper vessel and then the contents should be poured inside the eyes.—*Chakradatta.*

(6) In *Gaurikanchalika Tantra* we find :—

अपामार्ग जटा कट्टां समलोहित तन्तुभिः ।
बद्धा तूर्णं रवेष्वारे ज्वरं हन्ति लतौयकं ॥

The onset of tertian fever is checked, if the patient wears the root of the red variety of Apamarga in his waist tied up with seven pieces of red thread. The root should be collected on a Sunday. In another place of the same book we find :—

रविबारे समुत्पाटर चापामार्गस्य मूलकं ।
सप्त सूतो वारेबद्धा सर्वज्वरहरं परं ॥

The root of Apamarga should be collected on Sunday and should be worn on the wrist tied up with seven pieces of thread, for the cure of all sorts of fevers.

The writer requests his readers to try the above two *Tantric* rites and report the result through the medium of this journal.

Action and uses according to modern writers.

Astringent, diuretic and alterative ; given in menorrhagia, diarrhoea and dysentery. The *kshar* (ashes) largely used in anasarca, ascites and dropsy. Also given in cutaneous affections and enlargement of glands, and to loosen expectoration in cough. It has a great reputation in dog-bites and bites of snakes and other venomous reptiles, for which purpose it is given internally and applied externally. The juice is sometimes applied in tooth-ache and the paste as eye-salve (*anjjan*) in opacity of the cornea. A medicated oil (referred to above) is dropped into the ear in deafness and noises in the ears. *Khory, Materia Medica of India.*

“The diuretic properties of the plant are well-known to the natives of India and European physicians agree as to its value in dropsical affection : one ounce of the plant may be boiled in 10 oz. of water for 15 minutes and from 1 to 2 oz. of the decoction be given 3 times a day”.—*Dymock's Pharmacographica Indica.*

Medical News and Notes.

AYURVEDIC COLLEGES.

CORPORATION GRANT : AMALGAMATION SCHEME SHELVED.

The first meeting of the Corporation of Calcutta after the Puja was held, the Mayor Sj. J. M. Sen Gupta presiding.

After questions and answers, the recommendation of Public Health Committee regarding the grant for the first half year 1925-26 to the existing three Ayurvedic Institutions was taken up. Several amendments were moved but ultimately the House after a lengthy discussion accepted the amendment of Dr. Sundari Mohan Das.

The recommendation of Public Health Committee moved at a previous meeting was that of the lump sum provision of Rs. 6500 for grants to the three colleges for year 1925-26 the following grants be made at once for the half year :—Astanga Ayurvedic College Rs. 2000 ; Baidya Sastra Pith, Rs. 1,000 ; and Gobinda Suri dari Ayurvedic College Rs. 250.

Mr. N. N. Bose moved as an amendment that a grant of Rs. 2500 be made to the Astanga Ayurvedic College and Rs. 500 to the Baidya Sastra-pith.

Mr. Razzaque moved an amendment similar to that of Dr. Das and ultimately with the leave of the house he accepted the motion of Dr. Sundari Mohan Das.

Dr. Sundari Mohan Das moved that Rs. 3500 be made to the Astanga Ayurvedic College for the whole year, Rs. 2500 to the Baidya Sastra Pith and Rs. 500 to the Gobinda Sundari Ayurvedic College for the whole year.

Mr. Razzaque said that the question of amalgamation of the three institutions had been very tactfully shelved and they had shirked their responsibilities. If the amalgamation was effected, it would have been a national asset. That was the desire of the late Mayor and he reminded the House that it was the duty of every member to encourage indigenous enterprise and not seek to reduce the grants.

Mr. C. C. Biswas in supporting Mr. Bose thought that they had not sufficient information before them. Mr. Razzaque's point was one of sentiment and he for one was not prepared to be guided by sentiment alone.

Sj. Santosh Kumar Basu said that no case had been made out for reducing the grants. There was a strong body of opinion, he said, in this country not excluding Europeans which held that the Ayurveda contained many things which ought to be developed and supported by their joint efforts. The Ayurvedic medicine was in a struggling condition and trying to get a foot-hold in the city and ought to be encouraged in every way possible. The Ayurveda should be judged not by the actual output of work put forward by these institutions but to be judged by the result already achieved.

Mr. Biswas :—Political value.

Mr. Basu said that though Mr. Biswas always boasted of avoiding politics in civic matter, yet he was full of it and could not get away from the night-mare of politics. However, if it had got any political value, concluded Mr. Basu, that value ought to be obeyed and respected.

The House then accepted the amendment of Dr. Sundari Mohan Das and all the amendments fell through.

THE JOURNAL OF AYURVEDA.

To

THE EDITOR,

THE JOURNAL OF AYURVEDA,

2. HARAKUMR TAGORE SQUARE,

CALCUTTA.

DEAR SIR,

Dr. Aiyer's letter published in the current (September) number of your Journal is very interesting as it raises several points regarding Ayurveda and Ayurvedic physicians.

The first point raised is that "the presence of Vaid" is greatly embarrassing to the Allopathic Doctor". Why it should be so, when Allopathic treatment is above board and there is nothing to hide and seek. The position is clarified if the Doctor is tactful and liberal, not dogmatic or unscientific. The same may be said of the Vaid too. Dogma has no place in Scientific medicine. Unfortunately, dogmatism, trade-unionism, and professional jealousy are dominating the medical profession in India at present to its detriment. Does not the doctor feel embarrassed before the presence of another doctor of his qualification and a strong local rival in his profession? It is the brutish instinct of a professional man bent on self-interest to decry another member of his profession. If this be true amongst Allopaths or Kabirajes or Hakims or Homœopaths as the case may be, how much more embarrassing is the situation when two members of different sects in the medical profession meet. I know of a case where an European I. M. S. was consulted in a case where a retired Indian I.M.S. was simultaneously called as consultant. Now the poor L. M. S. who consulted both was rebuked by the European I. M. S. with the remark "You people call too many doctors at a time". The patient being a rich man and the case being extremely difficult, both the I. M. S. officers, the one in service and European, the other retired and Indian were simultaneously called in consultation as they were the leaders of Allopathic practice in the locality (a presidency town). If this is possible when two members of the same sect meet, is it astonishing to find an embarrassing position when an Allopath and a Vaid meet. I would advise Dr. Aiyer to use tact, to minimise the embarrassment when such a situation arises out of pure professional jealousy or trade unionism as the case may be, and to avoid dogmatism.

The next point raised is the "examination of the patient" in the Ayurvedic system. It is the same as in the Allopathic system, viz., Interrogation, Inspection and Palpation. Percussion and instrumental observation are not known in Ayurveda. There are two modes of examination in which Ayurvedists excel. In the absence of instrumental record the Ayurvedists have to fall back on the most delicate of all

instruments—their own patients. It is common knowledge that in these days of mechanical observation to aid our senses, clinical observation is gradually becoming a lost art amongst the Allopaths. Laboratory specialists are crushing and driving out the general practitioner everywhere. This is deplored by leaders of Allopathic practice as is evidenced by a study of the Allopathic journals of the world. The general physician is a great clinical observer as the Ayurvedists ought to be. It is not the fault of the system, if the exponent does not develop his own senses.

As regards the pulse no mention of it is found in Charaka. During the Buddhistic period when surgery and midwifery were lost, the Ayurvedists had to depend on drugs and surgery was left to the untouchables, the barbers and midwifery to the Dhais. Chemistry was more developed. In the Tantrik period the physiology and anatomy of the Nervous System was developed and increasingly studied, along with the changes in the pulse.

Ordinarily the various points observed by clinical observation at the bed side were tested by examining the pulse which furnishes the key to unravel the mysteries of disease whether the patient's Vayu (Sympathetic System) Pittya (Katabolic Endocrines) or Kapha (anabolic Endocrines) are affected singly or in combinations. Special diagnostic and prognostic hints are given depending on the very minutest variations of the Pulse. In absence of the various instruments, Ayurvedists had to depend on observation of the variations of the pulse. If Dr. Aiyer consults—"Broadbent's Pulse" he will find it stated that the ancients could diagnose and find out all the different variations of the pulse what we in our days do by aid of instruments. Further he will learn how many diseases show variations in the pulse. Ayurvedists have specialised in pulse examination.

The knowledge of pulse of a particular Ayurvedist will depend on how much he has developed his power of observation and the delicate sense of touch.

It is gratifying to note that Dr. Aiyer is inquisitive about Ayurveda and the spirit of enquiry brings the desire to know.

The third point raised is that Vaidas in season and out of season decry Ayurveda. Do we Allopaths not do so? This is trade-unionism and dogmatism in the present day medical practice which has come down from its high pedestal in these days of materialism and intense self-interest.

Vaidas tell patients that English Medicine increases "Pitta"—Dr. Aiyer must remember that the forms and preparations of allopathic medicine is more suited to temperate Europe than tropical India. If he cares to note the dress, the food, the mode of life, the enjoyment of the ball room of any European he will find that every act conduces to fight against the coldness of the atmosphere. If this is true in health, is it difficult to understand that Allopathic medicine should raise organic activity (pitta) doubly reduced by the rigours of

atmosphere and the effect of certain diseases. Allopathic form of medicine so suited to Europe is not so beneficial for Indians living in the tropics unless modified. The tinctures and liquid extracts for example contain a good quantity of alcohol for preservation which stimulate "Pitta" in a system already stimulated by the heat of tropics not to speak of the extra stimulation of pitta in diseases of Liver, Fever, etc. That fresh infusions and decoctions are vastly superior to preserved tinctures and liquid extracts is a common knowledge amongst Indian practitioners. In using an Allopathic drug one has got to take into account not only the action of the drug but that of the preservative (alcohol) in the system.

If Dr. Aiyer cares to read the correspondences in English and American medical journals regarding the various food preservatives and the Act that is going to be passed in England against food preservatives, he will understand why preservatives of drugs used in disease may help or retard the action as the case may be.

Lastly he decries propaganda work in the *Journal of Ayurveda*. This is used to attract attention to Ayurveda of men like Dr. Aiyer himself.

As an old Allopath the writer may be excused for the above remarks. He practises the modern Scientific medicine, but from study of Ayurveda he has become one of its admirers, for he firmly believes that Ayurveda should not remain sectarian or even national but international—Ayurveda and Allopathy will mutually benefit each other and march side by side to the relief of suffering humanity. There should be no dogma in scientific medicine old or young, Western and Eastern. The writer has found many a tips from Ayurveda, has used many Allopathic drugs from Ayurvedic point of view and he had no cause to regret it.

Allopathy and Ayurveda, both study the phenomena of health and ill-health from different angles of vision. Both attempt at reaching the goal by two different paths, not necessarily diametrically opposite.

What will be the fate of modern scientific medicine if paper and printing machinery will go out of the world. Only the result of observation will be jotted down and all explanation and details will be verbally taught. In course of ages these will be lost and modern scientific medicine will be equally dubbed as unscientific by a future generation if such a calamity happens to the world.

The super-structure raised by Ayurveda is to no way inferior to that raised by modern medicine. Rather I should say that the ground work of Allopathy is swifiting. The theory of Bacteriology is daily losing ground with the rise of the latest theories of modern medicine, the non-scientific therapy which is cutting at the very root of Bacteriology and the sympathetic Endocrinology which is the same view point of the causation of disease (soil and not the seed) is the Ayurvedic theory of Tridosha.

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THE JOURNAL OF AYURVEDA

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November, 1925

[No 5.

In our August number under the heading of "Research of Indigenous Drugs in modern lines" we published an interesting paper which we commend our readers a careful perusal. The writer with much insight brings forward a strong plea for scientific investigation of Ayurvedic drugs with a view to remove some of the misunderstandings regarding the value of our drugs which now prevail amongst those practising the Western system of medicine. A research on drugs on Western lines as pointed out in that paper is not so easily done. A thorough investigation requires a team of workers. Our clinicians should enlighten the laboratory worker with the therapeutic value and their uses of the drugs according to the conception of Ayurveda while the laboratory worker should find out by animal experimentation the pharmacological action of those drugs. In this work a well equipped laboratory is essential and the worker must have the co-operation of expert chemists and bio-chemists.

The isolation of the active principles of the recognised drugs takes a long time, usually several months, and may be a year or even more. As pointed out in the above article it is not enough to find out one active principle. Sometimes a drug contains several constituents, some active, others inert, and often one constituent possesses almost an opposite effect to the other. These different constituents therefore require a careful and thorough investigation not on the basis of the modern Western medicine but on the lines indicated in our Ayurveda. Thus while the use of tinctures and alcoholic extracts or the alkaloids and glucosides form the

basis of modern Pharmacology, our Ayurvedic Pharmacology should establish the action of drugs on the lines prescribed by us. The action of drugs given independently on the form of fresh juice requires a careful study and then the difference it produces on the system when given without usual *Anupans* must also be carefully studied.

It is necessary therefore that we should put our house in order that we may be able to establish our position firmly as against other systems now so much in vogue in this country. The time-honoured custom of following the tradition of our system requires readjustment and we must therefore follow with the times and take full advantage of the spirit of scientific research from our western friends.

We have no cause for despair. We have been in the past victims of much adverse criticism. Even in the western countries Pharmacology is one of the most recent developments of medical and biological science. It has made its progress only within the last 30 years but the progress has been enormous. We must not therefore lose heart but should concentrate all our energies in the investigation of our drugs and show to the world that though we had been accused of empiricism, our drugs that we use can stand the test of scientific research. Medical men trained in Western science expect too much from us but they forget that their science with all their facilities is still far from being perfect, and although research has been done on a wide scale in different parts of the world very little work has been done on this line in India. It is only within the last 3 or 4 years that some attempt has been made to explore the field of indigenous drugs at the Calcutta School of Tropical Medicine. But their work has been one sided, to say the least of it, and in the absence of knowledge of Ayurveda by the workers these have been imperfect. But we welcome

such works as they only establish our right for existence and support.

As long as the value of medicine remains unexplored there will remain grave conditions which must be met by empirical therapeutics. And as long as human system in health and disease varies individually as to their symptoms and reactive powers to disease and drugs, there will be field which must be faced without the accuracy of a laboratory worker, in other words observations at the bedside with regard to the actions of drugs must be the prime factor in whose path must follow the laboratory investigator who will discover for the clinician the reasons for the procedure which he has found useful. If the knowledge of the laboratory worker leads him to the belief that the use of a particular drug for a particular disease is irrational, it is for him if he finds that the drug has universal approval of a particular sect of physicians, i. e., those following the Ayurveda, not to marshall what facts he has to prove that the physician is wrong, but to bend his energies to discover the facts as yet unknown whereby those clinical results are produced. In other words the real spirit of scientific research which will help Ayurveda will be for the laboratory worker to prove and establish by research how our drugs do good and not to try to prove that we are in error.

If research could be done on the above lines with the full co-operation and mutual good will with a spirit to find out the truth, the scientific investigators, Ayurvedic physicians, chemists and bio-chemists should join hands and evolve out of chaos a system which will embrace all that is best in us and in those who are practising in the Western system. This system will be the universal system for the good of humanity in general and the followers of Ayurveda as also of the Western medicine will feel proud to call the system their own.

Original Articles.

—:o:—

NOTABLE MEDICINAL OILS OF INDIA

BY

N. B. DUTT, M.R.A.S. (Lond.)

There is no other country in the world which produces so many kinds of oil-seeds and of such economic importance as India. It is but natural that among such a large number of oil seeds some should find their way to the druggists' shops. Indeed not even half a century has elapsed since many kinds of vegetable oils were used throughout the country as illuminants ; and although Kerosine has now penetrated to the poorest household, the burning of vegetable oils can not be said to have wholly gone out of fashion. We mention this fact particularly because when an oil is used as an illuminant, it is but one step further to employ it for healing purposes, the material being ready at hand and the people being prone to ascribe some medicinal virtue or other to almost all vegetable products. In this way many sorts of oils were and are still used in India especially as external application in maladies of various kinds. But for our present purposes we propose to deal only with such oils as have been proved to be fully efficacious in certain kinds of diseases and in which there is more or less external and internal trade.

RAPE AND MUSTARD OIL.

By far the most important oil from commercial point of view which combines culinary with medicinal properties is the oil derived from rape and mustard. Indian seed yields from 42 to 45 per cent. of oil. In some parts of India especially in Bengal mustard oil is rubbed all over the body before taking bath. It certainly has a cooling and cleaning effect on the skin, while the presence of sulphur compounds in the oil helps to prevent or cure cutaneous affections of milder types. Cases are known of Europeans deriving much benefit from regular anointing of body with mustard oil. Mustard oil is largely used for culinary purposes in India and it is especially exported to those countries overseas where Indians are living, e.g. Mauritius, Natal, British Guiana, Fiji, etc. Refining of rape seed oil for the purposes of manufacturing margarine may open up a new field for this oil, but it has not as yet been attempted in this country.

CASTOR OIL.

Originally perhaps a native of Africa, the Castor oil plant, *Ricinus Communis* found its way to India centuries ago as it is mentioned by one of the oldest Sanskrit Medical writers, Susruta. At present India has practically the monopoly of the world's export trade in castor seeds, although there is some cultivation in Brazil, Manchuria, Java and South Africa. The medicinal use of castor oil is too well known to need recapitulation here. Castor of course is a field crop, but in Northern India red-stemmed varieties of the plant are found in waste places, road and canal sides and in other situations. These may be considered as escapes from cultivation or semi-wild plants. The cultivated plant is also of two varieties large and small-seeded, the latter of which is the source of medicinal oil. The oil obtained from the large-seeded variety is employed for lubricating and burning purposes. It is also much used for dressing leather, in dyeing processes and in preparing Turkey Red Oil. An acre of castor oil plant will yield 700 to 900 lbs. of cleaned seeds and the seeds will give 35 to 50 per cent oil. The lower market value of the Indian oil is explained by the fact that except in the principal mills the oil is expressed by crude methods and adulterated with other oils. Properly expressed cold-drawn oil is, however, fully equal to the product of Hull as is evidenced by the quality of the oil produced by certain mills near Calcutta. It has recently been found out by the Pusa agricultural authorities that the lower oil-contents of the seeds of some places is due to picking the fruits while not yet fully ripe. Pure castor oil is pale greenish or almost without colour and possesses a rather mawkish odour and taste. Its main characteristics are high specific gravity and viscosity and the acetyl value. The use of castor oil as hair tonic is, it appears, on the increase.

CROTON OIL.

Botanically related to the castor oil plant, *Croton Tiglum*, the source of croton oil, grows wild in the southern parts of India and in East Bengal and Assam. It is a small tree with a disagreeable smell. Although not known to the ancient Hindu physicians the seeds are described in the later works as heavy, mucilaginous and purgative, useful in fever, constipation, enlargements of abdominal viscera, etc. The irritant action of the seeds on the skin is well-known and is due to the same neutral, resinous principle which is responsible for the strongly purgative properties.

There is some risk to the workmen engaged in expressing the oil and it is not unusual to find them suffering from redness and irritation of the skin. No case however of poisoning by eroton seed that terminated fatally has been recorded in India. The seeds yield 53-56 % oil of a brownish yellow or amber colour. The use of eroton oil is very much restricted in modern pharmacy.

CHAULMOOGRA OIL

The tree source of chaulmoogra oil which is now considered to be almost a specific in the treatment of leprosy was long unknown. The French pharmacist, Desprez first directed attention to the origin of the oil and in 1900 it was established that the true chaulmoogra oil is the product of *Taraktogenos Kurzii*, a native of Eastern Bengal, Assam, Burma and the Andaman Islands. The Burmese name 'Kalaw', however, includes more than one species of *Taraktogenos*. The amount of chaulmoogra crop varies very much from year to year and it is not uncommon to find trees bearing sporadically once in three years. There is some similarity between the false and genuine chaulmoogra seeds and hence the seeds of *Gynocardia odorata* were often formerly and still are passed for *Taraktogenos* seeds. *Gynocardia* seeds are however about half the sizes of *Taraktogenos* seeds, the shell is more or less ridged and the kernel pale-yellow; the seeds of *Taraktogenos* are on the other hand large, plain and with dark-coloured kernels. Regarding the characteristics of the oil it is noteworthy that *Gynocardia* oil is optically inactive and contains no chaulmoogric acid or its homologues which are present in the optically active oil of *Taraktogenos Kurzii*. The yield of oil from chaulmoogra seeds is about 30 per cent or less according to the quality of the seeds, the brown mature kernels giving a full and the immature black kernels a lower percentage of oil. For expression, the seeds are pounded, put in canvas bags and extracted, generally with heat, in castor oil mills; the cold-drawn oil is, however, much better. When allowed to stand, the oil separates into a clear straw coloured and a dirty-white portion. The great demand for chaulmoogra oil during the last few years has led to exhaustive exploitation, specially in the more accessible parts of Tipperah and Chittagong and it is very desirable that the collection should be regulated in future. Dr. Power and his collaborators have made a thorough investigation of the chemistry of chaulmoogra oil and the work of Walker and Sweeny at

the University of California has raised the use of chaulmoogra oil from an empirical to a definitely scientific basis. It is now known that the bactericidal activity of the oil is due to the fatty acids of the chaulmoogric series.

Belonging to the same Natural order, Bixinee, *Hydnocarpus Wightiana* of South India, from Coneen to Travancore, and its congeners yield seeds the oil of which is regarded as equivalent to that of the true chaulmoogra. The yield of oil from the seeds is slightly higher viz. 32.4 %. In the United States of America the so-called chaulmoogra oil is to a large extent the product of *Hydnocarpus Venenata* and *H. Alcalae* of the Phillipines. The chaulmoogra oil of the Japanese Pharmacopoeia is derived from *Hydnocarpus anthelmintica*. Besides the chaulmoogric acid, a lower homologue of the same series is found in *Hydnocarpus* seeds. Of recent years *Hydnocarpus* seeds are coming to the market in larger quantities and it will perhaps not be long before *Hydnocarpus* oil will find as large a sale as the oil from *Taraktogenus Kurzii* seeds. There is all the more probability of this, as it has been found that Sodium hydnocarpate, the most useful salt of the oil is prepared more readily and in larger quantities from *Hydnocarpus* oil than chaulmoogra oil. Moreover, *Hydnocarpus* seeds having a stronger coat than that of chaulmoogra they are less damaged during transit. The United States of America have already strated a large plantation of *Hydnocarpus* in Hawaii where several thousand trees are flourishing.

NEEM OIL.

Two species of *Melia* are found in India of which *M. Azadirachta* is more common, while *M. Azadirach* is mainly confined to the northern parts. Almost every part of the common Neem is used in medicine and the oil from seeds was known to possess remedial virtues in rheumatism and skin affections even in the remote past. The discovery of margosic acid and its ester which play such an important part in the treatment of leprosy and syphilitic and other eruptions is, of course, of recent date. But within a short time the use of Neem oil in the form of soap and of its active principles in the form of injections has made a rapid progress. The seeds yield a bitter, acrid, greenish-yellow oil having a garlic-like odour to the extent of 40-45 per cent. The seeds of *M. Azadirach* are not much used except as beads but these also contain an oil of similar nature.

MALKUGNI OIL.

In many country drug-shops of any pretension glossy, orange-coloured seeds may be found which are sometimes enclosed in round 3-celled capsules. These are the seeds of ascendent shrub, *Celastrus paniculata* of the outer Himalays known in vernacular as 'Malkugni'. The seeds contain 44 per cent of a reddish oil which has long been in repute as a brain-stimulant and nerve-tonic. The *oleum nigrum* or black oil, recommended as an efficacious remedy in Beri-Beri is prepared by a destructive distillation of these seeds along with benzoin, cloves, nutmegs and mace. In doses of 15-20 drops twice a day this oil acts as a powerful stimulant and causes copious diaphoresis. There are also other preparations of the drug which still find favour among the people of Northern and Western India.

OTHER OILS OF MEDICINAL POTENTIALITY.

The use of 'Karanja', *Pongamia glabra* oil in cutaneous affections is very old. It has been mentioned by Chakradatta and its medicinal properties are known to ordinary people in areas where the tree is common. Mixed with lemon juice and well shaken it makes a yellow ointment which is efficacious in psoriasis and similar diseases. Recently this oil has attracted the attention of some European medical men and as a result we find that enquiries are made about the seeds from time to time. The flat, light-red seeds yield about 30% of a thick yellow oil with a bitter taste.

Another equally common medicinal oil is that of Buchki, *Psoralea Corylifolia* which is a common weed throughout India. In native practice it is recommended in leprosy, leucoderma and other inveterate skin diseases. In the hands of the authorities of the Calcutta School of Tropical Medicine, Buchki oil has given good results in leucoderma. The small ovate dark brown, aromatic seeds contain about 20 per cent of a thick reddish-brown oil. Among medicinal oils of minor importance are the oil from 'Sajna'-seeds, *Moringa Pterygosperma*, used in some places as an application in rheumatism and the shell-oil of the cashewnut, *Anacardium occidentale* which is vesicant and useful in skin-diseases.

There are a few other medicinal oils the properties of which have not as yet been fully investigated, e. g., *Vernonia anthelmintica*. The small, long cylindrical seeds of this common weed are much used in skin diseases and as vermifuge. A strong smelling yellow

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oil is obtained from the seeds to the extent of 18%. It would appear that the anthelmintic value of 'Somaraj' seeds has not as yet been fully appreciated. The fats obtained from Bombay Mace, *Myristica malabaria* and *Canarica* and *Garcinia* specially may also be mentioned in this connection. It is desirable that such oil seeds should engage the attention of our medical research-workers. We refrain from discussing here the medicinal essential oils, as this class of oils is of sufficient importance both medicinally and commercially, to deserve separate consideration.

TESTED SIMPLE REMEDIES.

DISINCLINATION TO FOOD.

Juice of fresh Embelic myrabolan—1 oz.

To be taken every morning on empty stomach.

VOMITING.

Decoction of Guduchi (Guduch—2 tolas, smashed and boiled in 8 oz water reduced to 2 oz) should be administered with cane-sugar.

THE SAME.

The three-forked grass, called Durba (*agrostis cynasuroides*) should be prepared into a paste and mixed with rice-water and taken.

ALCOHOLISM.

Administer ghrita (clarified butter) with cane-sugar.

INSANITY.

Fresh raw flesh of sparrow should be administered daily prepared into a paste with milk.

IN RHEUMATISM.

The root of the plant *Brihati* (*Solanum indicum*), taken daily in $\frac{1}{8}$ th tola (10 grains) a dose prepared into a paste with water cures chronic rheumatism.

FACIAL PARALYSIS.

Garlic taken with butter is useful in the treatment of facial paralysis.

IN BLIND PILES.

Chebulic myrabolan 5, pasted well and mixed with old cane treacle.

FOOD IN AYURVEDA.

BY

ASHUTOSH ROY, L. M. S. (Hazaribagh).

I.

FOOD IN HEALTH.

"The importance of a duly proportioned and sufficient dietary is shown by its great influence on health and constitution. An ill-proportioned and deficient diet will always lead to failure of health".

The subject of food is equally important to the medical man and his patients, the public at large. The importance of a well proportioned and sufficient dietary is shown by its influence on health and constitution, though there are other factors underlying it. But an ill-proportioned or deficient diet is certain to lead to failure of health. Nutrition is an important factor in preventive medicine. For individual and national well being, the subject of diet should be studied by all. Medical men should study diet not only to advise the people to keep good health but to prescribe suitable diet to the sick, the invalid and the convalescent.

DEFINITION.

Food determines the origin, continuance and dissolution of human and other organisms. It is the source of bodily and mental strength as also of growth. Life is impossible without suitable food, for the latter imparts strength to the various organs and makes them operative in their respective field of action. Ill-proportioned diet (unbalanced in quality or deficient or excessive in quantity) undermines health as much as irregularity in taking food and the persistent use of certain incompatible food combinations. Modern Medicine is yet to know that there is such a clinical fact as physiological incompatibility of certain food combinations. Diseases can be cured without drugs (natural recovery) simply with the aid of suitable diet (e.g., restricted diet in diabetes, avoiding milk in acute stage of fever and catarrhal diseases), but appropriate remedies in any quantity fail to cure a disease, if suitable food is not taken.

Ayurveda thus gives greater importance to food than drug in disease, for food adds to the reserve while drug draw it to tide over

an emergency. Besides the nutritive value of food as tissue repairer in health, it performs the more important function of producing energy. This production of energy by suitable food can be intelligently used to keep health as well as to get rid of diseases in each individual case, if we only care to follow the Ayurvedic principles of administration of food in health and ill-health.

The above idea that by suitable administration of food we can beneficially or otherwise influence the course of several diseases is well expressed by Bruce in his principles of treatment : —

"Food is not a mere matter of feeding or giving nourishment in diseases. It is to be employed as a means of treatment at once powerful and delicate calculated not merely to nourish the tissues, but to produce, immediate and specific and remote effects of a perfectly definite and natural character on the different organs of the body just like the different medicines. Beginning with its admission in the mouth and ending with the elimination of its products by the different organs of excretion, food possesses a remarkable number and variety of Physiological actions (digestive, absorptive, excretory, propulsive, and thus influencing the organs concerned) in respect of kind, form, amount and the frequency with which it is given. So potent a means of treatment (for good or for bad) ought to be intelligently handled in obedience to clearly defined indications. When a practitioner is deliberately planning treatment he should think of the food to be given in each case, as he should do so in case of drugs".

The food of each country is most suited to its native population. So far as the tropics is concerned, Nature is bountiful in providing various kinds of food, varying with season and place, more than meeting the needs of the people. Ayurveda had made a study of all foodstuffs found in the different parts of India suited for each individual temperament. Every practitioner of medicine in India, to whatever School he belongs, ought to study the chapters on food in Ayurveda, for however high lie may be posted in the principles of dietetic treatment he cannot prescribe suitable dietary for his Indian patients. He will further find new principles in Ayurvedic dietary and its practical application by Ayurvedists. Western medical men, unacquainted with these principles, often consider the special dietaries as "prejudices of the natives", but as the late Sir Pardey Lukis stated before an audience of British medical men and women, viz., "study Indian prejudices regarding diet and don't consider these prejudices as nonsensical". (B. M. J., October 1918.)

In a recent editorial in the Indian Medical Gazette, November 1924, the following remarks regarding Ayurvedic diet has been noted :—“Its (Ayurved’s) dietetics are based on Indian dietary and meet Indian requirements regarding caste, creed and constitution.”

CLASSIFICATION OF FOOD STUFF.

A variety of substances enter into the composition of our food which admits of being variously grouped. Thus the European classification of food in modern medicine is a chemico physiological one. The digestion of the various preparations of food involves the co-operation of a large number of dynamic forces. The natural classification of food should be based on their immediate, specific and remote effects on the system, for without knowledge of specific effects of each food stuff and its special preparation, we can not make a satisfactory selection in health and disease in each individual case. It is on the basis of specific effects and physical properties that the various foods of human consumption are classified in Ayurveda.

Each food-stuff in Ayurveda has been discussed under the following heads :

- (a) “Rasa” or taste of a substance.
- (b) “Guna” or property of a substance.
- (c) “Birjya” or immediate systemic effect
- (d) “Bipaka” or reactionary taste in the mouth following chemical changes these have undergone in the stomach.
- (e) “Provab” or specific effect.

(a) RASA OR TASTE OF A SUBSTANCE.

Each substance may have a single taste or a combination of tastes known as Primary or Secondary tastes.

The primary tastes in Ayurveda are described as of six kinds, e.g., “Madhur” (sweet), “Amla” (acid), “Laban” (saline), “Tikta” (bitter), “Katu” (pungent), and ‘Kashaya’ (astringent).

The secondary or combined tastes are various admixture of the six primary tastes. They are described as of 57 different kinds. These with the six primary ones make a total of 63 kinds of taste. The taste of a particular substance (food or drug) comes under the category of one of these 63 different tastes.

The effect of taking a substance of mixed or secondary taste is the combined effect of those of the primary tastes which make up the combination in the secondary taste in question.

MADHUR OR SWEET SUBSTANCES.

Substances of sweet taste are soothing, pleasant to taste and comfortable to take, keep the mouth moist and increase "Kapha" or mucus. These promote tissue growth and activity, increase longevity, stimulate activity of sense organs, improve complexion, increase strength prove stimulating to the weak and aged individuals as well as to those suffering from heart disease. (That sugar is a cardiac stimulant is also recognised in modern medicine). They are soothing and cooling to the system, heavy of digestion and check "Vayu" and "Pitta".

Taken in excess these produce corpulence or increased body-weight, lessen appetite and enfeeble power of digestion (by weakening Pitta), induce excess of sleep (vagotonic condition) and increase "Kapha" (mucus). These favour growth of intestinal worms in children who are always fond of taking excess of sweets, aggravate cough in respiratory disease, as also dyspnœa, increase flatulence, induce vomiting, produce sweet taste in the mouth, hoarseness of voice, and other "Kaphaja" diseases, e.g., pancreatic form of diabetes.

AMLA OR ACID SUBSTANCES.

Substances of acid taste produce tooth-ache, increase salivation and appetite, help digestion, improve health, increase strength, are extremely pleasing and relishing to take, check buccal secretion after its increased production, make a person thin or reduce body-weight, check derangement of wind or fermentation (by stimulating Liver), and light of digestion, produce a sense of heat in the system but soothing, partially expel wind and faeces (through the action on the Liver), increase acid reaction of the stomach and a slimy or mucus secretion from the intestine if continued, (Modern Medicine also recognises the clinical fact that if diarrhoea is suddenly checked by acid medicines, there is induced slimy secretion from the intestines).

Taken in excess these substances affect the enamel of the teeth, injure the eyes, increase suppuration of ulcers, (acidosis increases multiplication of bacteria and bacilli generally), increase "Pitta", and make blood less alkaline, produce a burning sensation in the throat, chest, cardiac region and thus reduce strength and induce dropsy in weak individuals (by upsetting the Liver).

LABAN OR SALINE SUBSTANCES.

Such a substance produces salivation and a little burning sensation in the mouth but induces a great relish for food. It is

corrective and helps purgation, induces emesis, favours process of suppuration and bursting of abscesses, is digestive, increases "Kapha and Pitta", is weakening checks rheumatic attacks, makes body weak, increases buccal secretion, cleans the internal channels of the body and ducts of various glands by drawing more water from the blood and is contraindicated in Oedema, Dropsy and Ascites (Modern Medicine explains that salts in the tissues absorb more water and induce Oedema, Ascites or generalised dropsy).

Taken in excess it brings on oedema and generalised dropsical conditions, scabies, urticaria and skin diseases in general, designated and included under the general term Leprosy, loss of natural complexion of the body, induces vesical weakness, inflammation of mouth and eyes, haemoptysis, acid eructation, baldness (premature) increased thirst, etc.

TIKTA OR BITTER SUBSTANCES.

Such a substance produces partial loss of sensation in the tongue, makes the mouth dry and unpleasant, stimulates digestion in a weak person, is soothing to the system and light of digestion, good in itches and ulcers, purifies blood, checks urticaria, burning, thirst, fever and makes a running cattarrh in the nose dry.

Taken in excess it causes numbness of limbs, dry neck, convulsion, paralysis, headache, giddiness, aching, cutting and severe pain in the bones, bad taste in mouth, tremors, thirst and weakness. Most of these symptoms are those of Nervous irritation.

KATU OR PUNGENT SUBSTANCES.

Such a substance produces a burning sensation of tongue and is followed by similar burning sensation of the nose, mouth and eyes. It also causes increased salivation and lachrymation and coryza. It is heating to the system, increases "Vayu-Kapha" and checks Pitta, is light of digestion, reduces obesity, removes langour as also intestinal parasites, cures some skin disease, checks secretion of milk and excretion of urine and faeces but cleans the internal channels of ducts of organs;

Taken in excess it causes vertigo, unconsciousness, dryness of throat, palate and lips burning of the body, increases body heat, causes loss of bodily strength, produces tremors, neuralgic pains and weakness as also diminishes the natural gloss of the body.

KASHAYA OR ASTRINGENT SUBSTANCES.

Such a substance produces dryness of mouth and palate, choking sensation in the throat, is heating, styptic and lessens secretion of the mucus membranes.

Taken in excess it causes tympanites, heart disease, dryness of mouth, tingling sensation over the body, convulsions, etc.

It may be noted that the above are the properties of substances (food as well as drugs) according to their tastes.

It may also be noted that the various tastes sweet, acid, saline, bitter, pungent and astringent are progressively weaker.

RELATION OF TASTE WITH HUMOURS.

Astringents possess the same virtue as Vayu deranged.

Pungent	"	Pitta	"
Sweet	"	Kapha	"

RELATION OF COMBINATION OF TASTES WITH HUMOURS.

A combination of—

Sweet, acid and saline checks Vayu, increases Pitta and Kapha.

Bitter, pungent and astringent increases Vayu, checks Pitta and Kapha.

Sweet, bitter and astringent checks Pitta.

Acid, saline and pungent increases Pitta.

RELATION OF TASTE WITH SEASONS OF THE YEAR.

Acid is aggravated in the Rains.

Saline " in Autumn.

Sweet " in Early Winter.

Bitter " in Late Winter.

Astringent " in Spring.

Pungent " in Summer.

(b) GUNA OR PROPERTY OF A SUBSTANCE.

A substance may possess any one or more of the following properties :

It may be "Guru" (heavy) or "Laghu" (light) of digestion.

"Snigdha" (soothing) or "Rukshma" (irritating).

"Tikshna" (pungent) or "Sleshma" (non-pungent).

"Sthira" (no motion) or "Sara" (much motion).

"Picchil" (slimy) or "Bishad" (non slimy).

"Sita" (cooling) or "Ushma" (heating)
 "Mridu" (slight action) or "Karkas" (strong action).
 "Sthul" (fattening) or "Sukshma" (thinning).
 "Draba" (liquifying) or "Suska" (drying).
 "Ashu" (quick-acting) or "Manda" (slow acting).

RELATIONS OF "GUNA" WITH HUMOURS.

Deranged "Vayu" induces the following "gunas" viz., coldness, dryness, lightness, suppression of secretion and non-sliminess.

Deranged "Pitta" induces heat, dryness, lightness, and non-sliminess.

Deranged "Kapha" induces heaviness, coldness and sliminess.

(c) "BIRJYA" OR IMMEDIATE SYSTEMIC EFFECT.

It is of two kinds:

- (i) "Ushna-Birjya" or Heating.
 "Sita-Birjya" or Cooling.

RELATION OF "BIRJYA" WITH HUMOURS.

"Ushna-Birjya" checks "Vayu-Kapha", stimulates "Pitta".
 "Sita Birjya" stimulates " checks "

RELATION OF "BIRJYA" WITH "RASA" (Tastes).

Saline, acid and pungent are progressively less heating.
 Astringent, bitter and sweet are " " cooling.

(d) "BIPAK" OR REACTIONARY TASTE AFTER CHEMICAL CHANGES IN THE STOMACH.

It may be of three kinds: Sweet, acid or pungent.

Sweet and saline cause a reactionary sweet taste in mouth.

Acid " acid " in "

Pungent, bitter and astringent causes a reactionary pungent taste " in mouth.

(e) PROVAB OR SPECIFIC EFFECT.

It is the sum-total of the action of the combined properties of a substance.

It is calculated as follows :

(1) If Rasa, Birjya, Bipak and Provab are of unequal strength (mild, moderate or severe) the predominant action of one overcomes the rest.

(2) If Rasa, Birjya, Bipak and Provab are of equal strength—
Bipak checks the action of Rasa.

Birjya „ „ „ of Rasa and Bipak.

Provab „ „ „ of Rasa, Bipak and Birjya

Translated in modern medical language, it expresses the result of metabolism of a food or drug. That drug is digested as much as food is unknown in the west. The effect of such digestion of a food or a drug may be immediate or remote. So far as food is concerned it may arouse or depress digestive functions. "Every well-ordered, well appointed meal", says Bruce, "is a stomachic tonic of the best kind". If easily digestible, the important food principle is readily absorbed from the intestines, while the residue is quickly thrown out of the system through the excretory organs. Thus food if properly chosen will help both digestion and absorption as well as excretion of waste products. It thus rouses the activities of the digestive, absorptive, propulsive and excretory organs. After absorption, the food principles which are re-arranged in the chyle, enter the blood and passes to the various other tissues and organs and stimulate the growth and activities not only of various organs, but of individual cells. The effect thus varies with the different foods concerned, certain ailments repair tissues, others produce energy; some are fat formers, others flesh formers and so on; some stimulate muscular energy, others nervous energy, etc. Thus different kinds of food may be taken to fulfil different functions. If ill chosen, a food may act harmfully depressing or upsetting the system in various ways, just as a well-ordered food rouses, stimulates and activates the system and is useful in various ways.

(To be continued).

THE NADI SYSTEM IN AYURVEDIC MEDICINE, UPANISHADS AND TANTRIC LITERATURE

BY

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(Continued from last issue.)

We shall now consider the distribution of the individual *nadis*. In this connection we quote a passage from *Vaidyasastra*, which enumerates a few *nadis* and indicates their relationship with two *nadi-chakras* of two sides.

शक्तिचक्रोऽवा नाड्यस्तिनाड्यः इति कीर्तिः ।
 विष्णुचक्रोऽवा यास्तु नाड्यः पौरुष संज्ञिकाः ॥
 पश्चिमी चित्तिणी चेव शङ्खिणी भागती तथा ।
 विश्वोदरी च गाम्यारी पिङ्गला रुद्रनाड्यः ॥
 विष्णुचक्र समाश्रित्य पुंसो दक्षिणपार्श्वं गाः ।
 पतहिंधं क्रमेनैव दक्षिणो वाहु शोधयेत् ॥
 सुषुमा पिङ्गला पुषा इडा रज्जुविकाशिता ।
 जलाटे हस्तिजिह्वा च चिनाउतीति प्रकीर्तिः ॥
 शक्तिचक्र समाक्रम्य वामपार्श्वे चरन्ति च ।
 एतत्करणकं चैव स्त्रीणामित्यु विशोधयेत् ॥

The *nadis* arising from the *Sakti-chakra* are spoken of as female *nadis* and those from the *Vishnu-chakra* as male *nadis*. The *Padmini*, *Chitrini*, *Sankhini*, *Bharati* (*Saraswati*, *Biswodari*, *Gandhari*, and *Pingala*) are called *Rudranadis*. The *nadis* arising from the *Vishnuchakra* pass to the right side of the body. The *Sushumna*, *Pingala*, *Pusha*, and *Ida* are cordlike *nadis*; the *Hastijihva* in the forehead is a female *nadi*. The *nadis* from the *Sakti-chakra* pass to the left side.

(a) *Sushumna*. This *nadi* has been variously described in different treatises.

(1) मेरोमध्ये नाडी सुषुमा * * । धुसुरम्भे रपुष्पग्यथिततम् वपुं स्फन्दमध्याक्षिरस्या, वज्राल्या मेद्वैश्चाक्षिरसि पशिगता मध्यमेस्याज्ज्वलन्ती । तन्मध्ये चिर्विष्णो लूतातनुपमेया सकल सरसिजान् मेरुमध्यान्तरस्यान् । * * तस्यान्तवेङ्गनाडी इरसुख (सहस्रार) कुहरादादिदेवन्तरस्या । * * सुमूला * * । ब्रह्मवारं तदास्ये (सुलाधारपद्मा)

Shatchakranirupanam ; Sreetattvachintamani.

(2) तिसुष्वेका सुषुष्वेव सुख्या सा योयवज्ञभा ।

अन्यास्तदायथं कला नाड़ा सन्तिहि देहिनां ॥

सर्वाश्वाषोसुखा नाड़ा पश्चतलुनिभाःस्थिताः ।

पृष्ठवंशं समाश्रित्य सोमसूर्याग्निहृषिणी ॥

तासां मध्यगता नाडी चित्रा सा ममवज्ञभा ।

ब्रह्मरम्भुय तवैव सूक्ष्मात् सूक्ष्मतरं गते ॥

पञ्चवणीच्छला शुद्धा सुषुम्बामध्यवारिणी ।

देहस्योपाधिहृपा सा सुषुम्बामध्यहृषिणी ॥

Sivasamhita.

(3) चित्रिणी शून्यविवरे सज्जाताभोद्द्वानिषट् ।

तत्पत्रेषु महादेवी भुजङ्गी विहरन्ति च ॥

Kalapasutriya.

(4) इडायाः पिङ्गलायाश मध्ये या सा सुषुचिका ।

रजोगुणच वचाल्या चित्रिनी सलसंयुता ।

तमोगुणा ब्रह्मनाडी कार्यभेदकमेण च ॥

Niruttara Tantras

(5) मेघमध्ये स्थिता या तु मुलादाव्रह्मरम्भुगा

सर्वंतेजोमयी सा तु सुषुम्ना वहृषिणी ।

तस्या मध्ये विचित्राल्या अमृतसाविणी शुभा ॥

Gautamiya Tantra.

(6) इडावासे स्थिता नाडी पिङ्गला द्वचिणे मता ।

तयोर्मध्यगता नाडी सूषुम्बावर्तभाश्रिता ॥

पादाङ्गुष्ठवंशं याता शिखाम्बो शिरसा पुतः ।

ब्रह्मस्थार्न समापना सोमसूर्याग्निहृषिणी ॥

तस्या मध्यगता नाडी चित्राल्या योगिवज्ञभा ।

ब्रह्मरम्भु विदुस्तस्यां पश्चस्वनिभं परं ॥

Saradatilaka.

(7) देहमध्ये ब्रह्मनाडी सुषुम्ना सूर्यहृषिणी पुर्णचन्द्राभां वर्तते । सा तु मूलाधारादारथ्य ब्रह्मरम्भुगामिनी भवति । तन्मध्ये तडित्कोटिसमानकान्त्या मृणालसूववत् सूक्ष्माङ्गी कुण्डलिनीति प्रसिद्धान्ति ।

Adwayatarakopanishad (A similar passage occurs in Manda-
brahmanopanishad.)

(8) सुषुम्ना इज्जनालेन पवमानंगसेन्तथा ।

वज्रदण्डसुसृष्टूता मण्यश्चिक विश्वितः ॥

सुषुम्नायां स्थिताः सर्वे सुते मणिगणाऽदृश ॥

Yogasikkhopanishad.

(9) सुषुचा मध्यदेशे व प्रार्थमार्गश्चया सृता ।

Nadipariksha (ना. प. २) ; *Nadi-bijnaniya*. [ना. वि. ३]

(10) सुषुचा तालुमार्गश्च ब्रह्मरस्तु वहित् सदा ।

Vidyasastra (ना. नि. व) *Nadyutspatti*. [ना. उ]

(11) इडानाम नाडीस्थितावामभाजे तनोर्दक्षिणे पिङ्गला नाम नाडी ।

तयो पूच्छवंशं स ग्रियत मध्ये सुषुचा स्थिता ब्रह्मरस्तु धावत् ॥

तदर्कर्तं ब्रह्मरस्तु सुसूक्ष्मं सृष्टालान्तरी * * *

Nadipariksha (ना. प. ३)

(12) ब्रह्मनाडीतिसप्रोक्ता सुर्वदालवेदिभिः ।

पूष्टमव्य स्थिता संस्था वीणादण्डेव सूविता ।

नासामस्तकपर्यन्तं सुषुचसुप्रतिष्ठिता ॥

Nadibijnana. (ना. वि. २)

(13) सुषुचाया शिवोदेवः इडाय देवता हरिः ।

Nadibijnana. (ना. वि. २)

(14) कन्द(भ)मध्यस्थिता नाडौ सुषुचेति प्रकीर्तिः ।

Nadisastrasamgraha.

(15) गुदादिशिरपर्यन्तं सुषुचा संप्रतिष्ठितम् ।

Nadisastrasamgraha.

(16) ग्रीवालं प्राप्य गलता तिर्यग्भूता वरानने ।

शङ्खिनी नालमालम्ब्य गतो सा ब्रह्मसदनं ॥

Nadibijnana Tantra.

(17) चित्रिणौसङ्काशिष्टा यावच्छिर समन्वित ।

Nadibijnana Tantra.

(18) हृदयादायता तावच्चनुप्रस्थिन् प्रतिष्ठिता ।

सारणी सा तपोनार्दीश्वोरेका द्विधा सती ॥

Maitryupanishad.

Considering the number of texts cited and that most of the facts are repeated from one work to another, it will be quite sufficient if we simply give a general description of the *sushumna* combined from the notes depicted in them.

(the *Sarani* of *Maitryupanishad*)

The *sushumna* is placed inside the spinal column. It extends from the *muladhara chakra* or *brahmadwara* (the coccygeal plexuses) through the *talu marga* (the region of the palate referring to the upper part of the cervical plexuses) to the head. Above, after

coming out of the spinal column it passes obliquely upwards and is continued into the *brahmasthana* (*brahmarandhra* or *brahma-sadana*) by the *Sankhini nadi*. Below, the *Sushumna* extends to the toes of both the legs by two *sikhas* or branches. In appearance, the *sushumna* looks like a row of expanded *datura* (thornapple) flowers placed one above the other.

The other nadis of the body are supported by the *Sushumna*; they are all directed downwards and are comparable to the roots of the lotus; thus the *Sushumna* may be compared to the *Bina* (a musical instrument and the *nadis* to the *threads*). The *nadis* are also comparable to the threads of a spider's web.

The *Sushumna* passes through the *Bajranadi*. Twenty-one *mains* arise from the *Bajranadi* (*Bajranati*). The *Bajranadi* extends from the region of the penis to the head.

Inside the *Sushumna*, lies the *Chitra* or *Bichitra* *nadi*, with which the *Sankhini* is blended. The six *nadichakras* arise from the *Chitra* *nadi*.

Inside the *Chitra* lies the *Brahmanadi* which is continuous with the cavity of the *haramukha*; it is comparable with the fibres of the lotus; the *Chitra* has bright colours.

We can well identify the structures mentioned here in the light of the modern Anatomy. (1) The *Bajranadi* seems to be the spinal column, so called from its hard bony structure and the vertebral canal inside. The *manis* are probably the spinous processes of the vertebrae; the number 21 is rather difficult to reconcile, but if we leave out the bifid spines of the cervical vertebrae and the lower rudimentary spinous processes of the sacrum, we can make up the number mentioned—namely, the spine of the seventh cervical vertebra, twelve dorsale vertebrae, five lumbar vertebrae and the three distinct spines of the sacrum. (2) The *Sushumna* itself is the spinal cord with its sheath of duramater. The appropriate comparison with *datura* flowers in a row will be brought home to any one who has seen the spinal cord with the duramater and with the spinal nerves, emerging from its sides. (3) The *Chitra nadi* seems to be the spinal cord itself, perhaps so called from its covering of veins and arteries on the surface; and the *Brahmarandhra* (the term is sometimes applied in other senses) is the central canal. (4) The *Sankhini* seems to be the medulla oblongata, the cranial cavity referred here as

brahmasadan, *brahmadwara* or *Brahmarandhra* (it might be the foramen magnum or the space immediately above it). (5) The two *sikhas* of the Sushumna may be the two sciatic nerves. (b) *Ida* and (c) *Pingala*.

(1) इडानामौ तु या नाडौ बासमर्गव्यावस्थिता ।

सुषुम्नायां समाशिष्टा वामनासापुटं गता ॥

या नाडौ पिङ्गलानामौ दक्षमार्गं व्यवस्थिता ॥

मध्यनाडौ समाशिष्टा दक्षनासापुटं गता ॥

Sivasamhita.

(2) चामाकारे स्थिते चान्मे सुषुमा प्रणवाकृतिः ।

पृष्ठस्तोष्ट्रितोभिन्ना तिर्यग्भूता ललाटगा ॥

भुमश्चेकुखलीलग्रामसुखैन ब्रह्मरन्ध्रगा ।

बामगा या इडानाडौ शुक्राचन्द्रस्वरूपिणी ॥

शक्तिरूपाहिसादेवी साचादमृतविग्रहा ।

दक्षेतु पिङ्गला नाम युरुवामूर्यं विग्रहा ॥

रीढ़ामिका महादेवी दाङ्गिमौकेशरप्रभा ॥

Sammohantantra.

(3) इडापिङ्गलासुषुमातिसो नाडो च व्यवस्थितः ।

इडावासेस्थिता नाडौ पिङ्गला दक्षिणेस्थिता ॥

Nadipariksha (II- 27).

(4) इडाच पिङ्गलाचैवतस्याः (सुषुम्नाः) पार्श्वाद्वये गते ।

विलम्बित्यामनुस्तुते नासिकान्तसुपागते ॥

विलम्बितैति या नाडौ व्याकौ नाभौ प्रतिष्ठिता ।

तत नाडः समुत्पद्नार्तिर्थ्यगृहेभवीमुखाः ॥

Yogasikhopanishad.

(5) इडाच पिङ्गलाचैव तस्याः सव्येतरे स्थिते ।

इडा समुत्पिता कन्द्रावामनासापुटावधि ॥

पिङ्गला चौत्पिता तस्माद् दक्षनासापुटावधि ।

Trisikhibrahmanopanishad.

(6) इडा च संस्थिता मेढाद वामनासापुटावधि ।

पिङ्गला संस्थिता मेढाद दक्षनासापुटान्तिका ॥

Nadisastrasamgraha.

(7) पिङ्गलाया विरचित्य सरस्त्वा विराम्युने ॥

पूषादि देवता प्रोक्ता वरुणो वायु देवताः ।

हक्षिजिह्वाभिधायात्मु वरुणादेवताभवेत् ॥

यशस्मिन्यामृतनिश्चेष्ट भगवान् भास्कररम्भया ॥

क्षत्स्वसाभिधानात्मव * * * ग्रीष्मिकीत्तिवाः ॥

कुहृथ देवता प्रोक्ता गाम्बारी चन्द्र देवता।
 शङ्खिन्या चन्द्रमातन् पथस्थिन्या प्रजापतिः ॥
 किशोदराभिधायसु भगवान् पादकः पतिः ।
 इडाया चन्द्रमा नियं चरते वो महासुने ॥
 पिङ्गलायारविकृदत् सूने वेदविदांचर ।
 पिङ्गलाया इडायासु वायोश्चक्रमणं यत् ॥
 तदुचरायणं प्रोक्तं सुनेवेदान्तवीदिभिः ।
 इति नाडिप्रकरणं हि ज्ञातव्यं वैद्यपारमैः ॥

Nadibijnana

There are several other works which give short accounts of the *Ida* and *Pingala* nadis, similar to those in the above passages. The above descriptions may be summed up as follows :

The *Ida* and *Pingala* nadis are closely connected with *sushumna*; they arise from the region of penis in close connection with *Bilambini nadi* (which is placed in the umbilical region and from which nerves pass upwards, downwards and laterally) and extend to the level of the alve of the nose. The *Ida* is placed on the left side and *Pingala* on the right.

(1) The *ida nadi* is the left sympathetic nerve cord and the *Pingala* the right sympathetic nerve. (2) The *bilambini nadi* (literally meaning one hanging down or prolonged down) is perhaps the sciatic nerve.

We next come to the other nadis. As the other *nadis* have been described very briefly, and together in all the works we shall first quote the passages together and then undertake to study them one by one.

(1) गाम्बारी हस्तिजिह्वा च चान्ये नाडिके स्थिते ।
 पुरतं पृष्ठतस्तस्य वामेतरदेशे प्रति ॥
 पूषायशस्त्रिनौ नाडौ यस्यादेव (कन्दात) समुच्चिते ।
 सब्ये तरश्चतावधि पायुमूलादलस्त्रुसा ॥
 अधोगताशुभ्रानाडौ मेद्रन्तावधिरायता ।
 पादाङ्गुष्ठावधिः कन्दादधीयताच कीर्णिकौ ॥

Trisikhabrahmanopanishad.

(2) तद्राभिचक्रमित्युक्तं कुकुटाङ्गमिवस्थितं ।
 गाम्बारी हस्तिजिह्वा च तस्मात् नेवहयं गते ॥
 पूषाचलस्त्रुसा चैव श्रीतहयमुपागते ।
 शुरा नाम महानाडौ यस्याद भुमध्यमार्थिता ॥

विश्वोदरी तु या नाडौ समुड्केऽन् चतुर्विधं ।

सरहती तु या नाडौ सा जिह्वात्म प्रसर्पति ॥

राकाम्बूशा नु सा नाडौ पौत्राच सलिलंबणाम् ।

चृत्सुपोदग्रेद्ग्राणे श्वेषाणं सञ्चिनोति च ॥

कसठक्पोङ्वा नाडौ शङ्खिन्यात्वात्वधोसुखौ ।

अद्रसारं समादाय मूर्धि संठितुते सदा ॥

नाभेरधोगतास्त्वस्त्री नाडयः स्वरधोसुखाः ।

मलं त्वजेत् कुह नाडौ मुद्रं सुचति वारणी ॥

चित्राख्या सीविनी नाडौ शुक्रशेचनकारिणी ।

Yogasikhopanishad.

(3) यशस्विनौ वामकर्ण चानने चाप्यलम्बुसा ।

कुइच्छिल्लदेशे तु मूलस्थाने तु शङ्खिनौ ॥

Yogachuramonyupanishad.

(4) गाम्बारा हस्तिजिह्वाच इडायाः पृष्ठपार्श्वयोः ।

पूरा यशस्विनौ चैव पिङ्गलाप्तपूर्वयोः ॥

कुहोश्च हस्तिजिह्वाया मध्ये विश्वोदरीस्थिता ।

यशस्विन्याः कुहोमध्ये वरुणा सुप्रतिष्ठिता ॥

पूर्वायाश्च सरस्वत्या मध्ये प्रोक्ता यशस्विनी ॥

गाम्बारायाः सरस्वत्या मध्ये प्रोक्ता च शङ्खिनी ॥

अलम्बुसा स्थिता पायुपर्यन्तं कन्दमध्यगा ।

पूर्वभागे सुषुनाया वाकायाः संस्थिता कुहः ॥

अधच्छेष्टस्थिता नाडौ यायनासान्तमिष्यते ।

इडा तु सव्यनासान्तं संस्थिता मूनिपुङ्गव ॥

यशस्विनौ च वामस्य पादाङ्गुष्ठान्तमिष्यते ।

पुष्यवामाचिपर्यन्ता पिङ्गलायात् पृष्ठतः ॥

पर्यत्विनौ च याम्भास्य कर्णान्तं प्रोच्यते वृद्धैः ।

सरस्वती तथाचोर्जगता जिह्वा तथामूर्ते ॥

हस्तिजिह्वा तथा सव्यपादाङ्गुष्ठान्तमिष्यते ।

शङ्खिनौ नाम नाडौ सव्यकर्णान्तमिष्यते ॥

गाम्बारा सव्यनेत्रान्ता प्रोक्ता वेदान्तवेदिभिः ।

विश्वोदराभिधा नाडौ कन्दमध्ये व्यवस्थिता ॥

Jabuladarsanopanishad.

(5) सुषमपृष्ठपार्श्वयोः सरस्वती कुह भवतः ।

यशस्विनौ कुहमध्ये वारणी प्रतिष्ठितां भवति ।

पूरा सरस्वती भये पर्यत्विनौ भवति । गाम्बारी मूलमध्ये

मध्ये यशस्विनौ भवति । कन्दमध्येऽलम्बुसा भवति ।

सुषुचा पूर्वभागे मेठान्तं कुरुभवति । कुरुखलिन्या
अधश्योर्द्धं बास्यो सर्वगमिनी भवति । यशस्विनी
सौम्या च पादाङ्गुष्टान्मिष्यते । पिङ्गला चोद्धंगा
याम्यनासान्तं भवति । पिङ्गलाया पृष्ठतो याम्यनेवान्तं
पृष्ठा भवति । याम्यकर्णान्ते पश्चस्विनो भवति ।
त्रिह्वाया ऊर्ड्धान्तं सरस्वतो भवति । असव्यकर्णान्तं
मूर्द्धंगा शङ्खिनो भवति । इडा पृष्ठभागात् सव्यनेवान्लगा
गाम्भारी भवति । पायुमूलादधोर्ड्धगालम्बुषा भवति ।
तास्वन्यास्तास्वन्या भवन्तीति विजेयाः ॥

Sandilyopanishad.

(6) कगठकूपादधःस्थाने कूम्हे नाडास्ति शीभना ।

Sivasamhita.

(7) इडा च शङ्खचन्द्राभा तस्या वामे व्यवस्थिता ।
पिङ्गला सितरक्ताभा दच्चिणं पार्श्वमास्थिता ।
इडा पृष्ठेतु गाम्भारी मयुरगलसन्निभा ।
साव्यपादादिनेवान्ता गाम्भारी परिकौर्जिता ॥
हस्तिजिह्वोत्पलप्रेचानाडी तस्याः पुरःस्थिता ।
सव्यभागस्य मूर्द्धादिपादाङ्गुष्टान्मास्थिता ॥
पूषातु पिङ्गलापृष्ठ नीतज्ञीमूतसन्निभा ।
धाम्यभागस्य नेवान्ताद यावत् पादतलं तथा ॥
सरस्वतीतु या नाडौ सेवामृतमिंस्त्रिता ।
पुण्यातिसा सदा देहसृष्टवधायारसैः ॥

Yogarnava.

(To be continued).

KARTIKA KUNDU.

BY

GIRINDRA NATH MUKERJI, VISAGACHARYA, B.A., M.D., F.A.S.B.

Kartika Kundu is quoted about fifteen times in Dallana's commentary *Nivandha Samgraha*, though he is not named in the list of his sources in the Introduction. But he might have been referred to under the vague "et cetera—त्रादि" at the end of the list. We have no evidence as to the supposed identity of Bhaskara and Kartika Kundu (see Bhaskara).

CHRONOLOGY :—

He is anterior to Dallana as he is quoted by him. He is also anterior to Vrinda Madhava for in commenting on विंशाद्य शृण्वन् Vrinda Madhava has written, in his *tippani* or *glosses* कोलस्थानेऽत वर्षः सामान्यतो इष्ट वैतुना ; Srikantha Datta comments कार्त्तिकमवसिद्धं वन्दे न लिङ्गितं Vakhya Kusuma Vali P. 162 ; so Kartika was anterior to Vrinda. But Hoernle says : "This remark must not be taken to convey any chronological implication ; as if Kartika were earlier in date than Vrinda ; we shall presently see that Vrinda is probably identical with Madhava, and is a comparatively early writer. As a fact, Srikantha explains immediately afterwards that Kartika only adopted the view of a very early writer, Kasyapa the Elder (Vriddha Kasyapa). Chronologically the case stands thus : Quoting the formula in question from Susruta, Vrinda adds a gloss noticing the rival view of another ancient writer, Kasyapa ; and Kartika commenting on Susruta, appears (teste Srikantha) to have preferred Kasyapa's view noticed in Vrinda's gloss. That, chronologically, this was really Srikantha's opinion, appears from another remark in the Sidhayoga (p. 440), where he says that Kartika adopted a certain view on the authority of old medical writers (Vriddha Vaidya) ; he cannot, therefore, have looked upon Kartika as being himself an old medical writer. (J. R. A S 1906, p 287).

Let us see how far Hoernle's arguments are based on facts :—

1. First, he has taken for granted that Vrinda was a comparatively early writer, on the supposed identity of Vrinda with Madhava Kara. This is a disputed point and after carefully weighing the available evidences, our conclusion is to the contrary i.e., Vrinda and Madhava Kara were different authors.

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2. We must be explicit about the meaning of "Vriddha Vaidya" or "the old physicians". It is customary to call such authors Vriddha as are hoary with age, e.g., Vriddha Susruta, Vriddha Kasyapa, Vriddha Vaghbhata. Madhava Kara has never been styled as Vriddha Vaidya and so, even if we accept for the sake of arguments the supposed identity of Vrinda and Madhava Kara, then even Vrinda does not become a Vriddha Vaidya; neither would Kartika be so called even if he was earlier than Vrinda. They would still however be considered many centuries old though they adopt a certain view on the authority of old medical writers, as in the case of Kartika (Siddhayoga p. 440).

3. Srikantha Datta distinctly writes कार्तिक मतसिद्धं वृन्देत तिस्रितं “Vrinda has adopted Kartika’s view”. Undoubtedly this expressed a chronological relation—the posteriority of Vrinda to Kartika. What Srikantha afterwards adds कार्तिकः किल कोलश्वीपादनिर्यद्य कल्पात्पत्वाद् वृद्धकाश्यपसंवादेनर्कर्षयाचष्टे । (p. 162). Here Srikantha simply traces Kartika’s meaning to its source *i. e.*, Kartika adopted old Kasyapa’s interpretation. The matter stands thus: Vrinda followed Kartika who again followed a very early writer Kasyapa. Hoernle says, ‘Vrinda adds a gloss noticing the rival view of another ancient writer, Kasyapa”, but he has not given any proof of his theory. Our only evidence is Srikantha’s statement and he affirms that “Vrinda adopted Kartika’s view, which had the authority of Kasyapa”.

THE AGE OF KARTIKA KUNDU.

Hoernle says, "Bhaskara (who is identified with Kartika by Hoernle) might be a younger contemporary of Cakrapani Datta (c. 1060 A. D.), which would explain why neither Bhaskara nor Kartika Kundu is (so far as I know) ever named by that commentator. The suggested identification and date of Kartika is supported by the fact that he is very frequently quoted, especially by Srikantha Datta in close connection with Gayadasa, who often quotes Bhoja. There is probably no long interval in time between Kartika and Gadadhara, the father of Vangasena, for Srikantha commenting on a formula of Susruta (p. 697) quoted by Vrinda Madhava in the Siddhayoga (p. 477), mentions a different reading of it, common to both Kartika and Gadadhara". (J. R. A. S. p. 287).

We are not convinced as to the age of Kartika. We have seen that Srikantha Datta's opinion was that Kartika flourished before Vrinda. It is true Kartika is not mentioned by Cakrapani Datta. So too Bhaskara and Gayadas are not quoted. But this argument does not prove that they were contemporaries. A certain author may not quote from the works of all authors who preceded him ; and this omission must not be taken as a proof of their contemporaneity. In page 477 of Siddhayoga, Srikantha Datta merely comments on the treatment of Night-blindness by gcats' liver, and quotes different readings from Gadadhara, Kartika, and Parasara. But he never hints that the authors flourished in times, not separated by long intervals.

KARTIKA'S WORKS :—

1. Commentary on the Susruta's compendium : Kartika's commentary is not available now, neither is it mentioned in any of the catalogues. But that Kartika was a commentator of the Susruta Samhita we learn from his annotations quoted by Dallana :

वानोवच्छिरनिले विधिवत् पिवेतु & गुर्वांग्रजामुहिष्मैनैयेतु च्यादृते सञ्चक्तात्त्र लण्णम् ।
In Commenting on this passage of the S. S., Dallana Says : कार्त्तिकेन चाव
द्वातिंशद्युक्तयोद्येतासूत्रसार परेच्चये इत्यादि श्लोकाद्यं पठितम्, (Ni-S. Uttara. Ch. 65).
Dallana again in commenting on हिंसाय घृत of the S. S. Says : “अन्ये
कर्षप्रमाणैरिति मन्यते”। Here अन्ये refers to Kartika for according to Srikantha
Kartika is the authority for explaining कील by कर्ष।

KARTIKA IN VYAKHAYA KUSUMA VALI.

1. उच्चते षडङ्गकल्पनया पानीयसंस्कारिण तिक्तरसो गृहीतः सप्तरात्वात्परं केचिदित्यादिना काले
गृहीत इति कार्त्तिकडङ्गणौ ।
2. ज्वरापह्येनैव ज्वरातोनां हितले लभ्ये ज्वरात्कामितिपदं भाविनोऽपि ज्वरस्य प्रतिवन्धाय
हितेति प्रतिपादनार्थमिति कार्त्तिकः ॥ P. 13.
3. महात्ययं गम्भोरमिति कार्त्तिकः ।
4. अहितसंभृत इत्यनेन तत्त्वापि भूयस एष दोषस्य विषमज्वरकारणलमिति कार्त्तिकः । P. 22.
5. उच्चरश्चोके चौत्पादिनत्यागेन गणनया समाधानमृक्तवान् कार्त्तिकः । P. 23.
6. पिप्पलोवर्षमानं &c. : अत पुनरभिधानमधिकभावार्थमिति कार्त्तिकः । P. 23.
7. एकेन्द्रीव कफस्यानेस्थितेन दोषेण तत्करणादिति कार्त्तिकः । P. 56,
8. परं तु वेद जैवभट्ट-कार्त्तिक-भीजादिभिल्लेस्तुलोनैव पयसा जलं विना पाको दर्शितः । P. 60.
9. कार्त्तिकमृत सगुडा च युणीयत नकारं भिन्नकम योजयिता युणी च सगुडिति व्याख्याय
गवार्चीमपि सगुड माह । P. 125.

10. कोलस्थानेऽव कर्षः स्यादन्तीहृष्टहेतुनेति । कार्त्तिकमतमिदं इन्द्रेन लिखितं । कार्त्ति क किळ कोलशब्दोपदानेऽप्यत्र कल्पात्पत्वाद् वृजकाश्यपसंवादेन कर्ष व्याचचे । P. 162.
11. पदेष्वपि पदेकदेशप्रवत्तेरिति कार्त्तिकः । P. 166.
12. कार्त्तिकस्त्वाह दाजद्रुम आरम्भादिगणोऽधिगन्तव्यः । P. 167.
13. आदि शब्दः प्रकारे तेन मधुपुष्पद्राचाकाशमर्यखर्जुरानीति कार्त्तिकः । P. 175.
14. कार्त्तिकस्त्वाह सर्वकातमामजाम् । अस्या आमकोपितसर्वदोषजन्यत्वादिति ॥ P. 177.
15. संज्ञावहस्तीनिरोधशालिकरत्वेन व्यधिप्रत्यनीकत्वादिति कार्त्तिकः । P. 181.
16. कुशलेन प्रयोजितमित्यमर्थं विना नस्विर्धानात्प्रतिमर्थं विना नस्य चतुर्विधमप्यवेति तु कार्त्तिकः । P. 201.
17. कार्त्तिकस्त्व मदिरामित्यस्य स्थाने मतिमानिति पठित्वा चूर्णं (क १) मिति च व्याहृत्य व्याचचे पाठल्यादीनां चूर्णं चारोदकैन मुक्तकक्षारवारिणा पिवेदिति । P. 282.
18. त्रिफलाकल्पसंयुक्तं स्वयं पिवोदित्यवापि पानार्थ चारोदकेनेवनुवर्त्तत इति कार्त्तिकः । P. 282.
19. उत्सादणमिति शोधनं संयोगविशेषादाधीरप्रभवत्वादा निम्नमांसोन्नतिकरमिहोल्लादन-व्यपदेशमाह कार्त्तिकः । 363.
20. यद्यपादे परं वातहरे उक्ते तथाऽपि वल्लिकण्ठकपञ्चमूलहयमिति वातजे विसर्पे व्यधिप्रत्यनी-कतया हितमिति कार्त्तिकः । P. 393.
21. एवं चौरपरिभाषान्यायात्कौरं साधयित्वा तैलकुड़वी त्रिपात्र्य इति-कार्त्तिकः । P. 410.
22. शागन्तुजनाड्या यज्ञमस्य भवेत्तद्बुरेदितुचते विधिरिति कार्त्तिकः । P. 422.
23. कषायद्रव्याणां तद्वत्लेऽपि जात्या; पृथग्भिधानं यथालाभप्रयोगनिषेधार्थं भागदवयहणार्थं वैति कार्त्तिकव्याख्या । P. 423.
24. अत कर्पासीफलरसस्यार्थं मधु मधुनोऽर्थं सर्जत्वकचूर्णं हृष्टवैद्यसंप्रदायादिति कार्त्तिककुण्डः । P. 440.
25. तथाभूतं यक्तदभित्तमन्नेन वा विहितं नक्तास्यं शामयतीतिकार्त्तिकः । P. 477.
26. अत स्वरसभावनस्यापुत्रत्वादेवमित्यतिदेशस्य वैयर्थ्यादिदारिचूर्णवत् चौद्रष्टवाभ्यामप्यासलक-चूर्णस्य स्वरसभावितस्य प्रयोगमाह कार्त्तिकः । P. 525.
27. तेन यामतयात्परतोऽपि यामनेकभागच्छब्रवि न दृष्टतीति कार्त्तिकः । P. 565.
28. विविक्तता गौरवयन्त्वमिति कार्त्तिकः । P. 571.

(To be Continued.)

SOME CLAIMS OF AYURVEDA.

(Contributed.)

(Continued from last issue).

(III)

A host of Anglo-Indian medical men who have honestly studied Ayurveda or had seen the good effects of Ayurvedic treatment, have spoken very highly about it. On the other hand some of the best Indian medical men trained in the western system have also spoken in the same strain. Finally we have the opinion of several European and American medical men regarding the indigenous system. Their opinion is all the more valuable as it is free, voluntary and independent, free from the spirit of trade unionism which unfortunately is the tendency of modern medical practice in India (European and Ayurvedic). Surely all these people are as much scientifically trained as those who find nothing of benefit in Ayurveda.

I will now quote some authoritative statements in support of my statement.

"The principle of Ayurvedic treatment," says Dr. Carpenter, "is based on vis Medicatrix Natura or the unerring laws of Nature".

"Ayurveda acknowledges the principles of both the forms of treatment (Allopathy and Homœopathy). In the West, unfortunately the followers of these two apparently divergent systems of treatment, try to prove that the other is wrong. Not unfortunately they are dogmatic to each other and such an unscientific spirit amongst two classes of scientific men is all the more deplorable. The public who judge the various medical systems by the results, who are therefore neither prejudiced nor dogmatic, know that each system has its uses and limitations and none of them is perfect.

In man we find a judicious blending of the psychic with the physiological, the physical with the metaphysical, the fine with the gross, the subjective with the objective, the body with the mind—we cannot completely separate the one from the other in health and ill-health.

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The "crude" drugs of the regular school act directly on the grosser structures of the human body which are subject to physico-chemical laws. The "potentized" homœopathic forms of drugs act indirectly through the finer structures, the Nervous system and the mental sphere.

In Ayurveda we find the most judicious blending of the crude and potentized drugs, the former from the organic kingdom, the latter from the inorganic kingdom. The ingenuity of the old Ayurvedic physicians consisted in recognizing the particular line of treatment suitable in each individual case". (Dr. A. T. Roy, L. M. S. in the Pantherapist, Chicago, December 1922).

This is what Dr. Carpenter probably meant by the statement that Ayurvedic treatment is based on *vis Medicatrix Natrae*.

Mahatma Gandhi states that "My quarrel with the medical profession in general is that it ignores the soul altogether" (Journal of Ayurveda July, 1925). With all respect to the Mahatma the writer begs most humbly to state that neither the principle of Ayurveda, nor of Homœopathy, nor of Endocrinology of Allopaths ignores the soul altogether. They all try to influence the spirit through the physical—just as Hindu yogis influence it through the material (body and mind).

Dr. George Clarke of Philadelphia on studying Charaka remarked that "if the physicians of the present day would drop their pharmacopœia and all the modern drugs and chemicals and treat their patients according to the methods of Charaka, there will be less work for the undertakers and fewer chronic complaints in the world."

The late Sir Pardey Lukis, the Director General of the I. M. S. has spoken on different occasions regarding Ayurveda as follows:

"We (Allopaths) are just emerging from the slough of empiricism.....Personally I would frankly say that if I were ill, I would prefer to be treated by a good vaid or hakim than by a bad doctor."

The fault therefore lies according to the late Sir Pardey, not in the Ayurvedic system, but with the bad exponents of the different systems, Eastern and Western.

Again he remarked :—"I am not alone in my opinion as regards the value of the indigenous system of medicine. If I err

I do so in good company amongst whom I may mention my friend and former colleague Sir Havelock Charles, Col. King of Madras and Dr. Turner of Bombay."

Surely these Anglo-Indian medical-men were above vested interests and truly scientific.

Again he stated that "the longer you live in India, the more intimate your connection with Indians, the greater will be your appreciation of the wisdom of the ancients and the more you will learn that the West has still much to learn from the East (B. M. J. October 1918).

Dr. John Redmond Coxe, the able translator of the works of Hippocrates and Galen remarked—"When we see the ancients most unblushingly undervalued, we may set it down as a rule, that such persons have never examined the authors they condemn and are therefore desirous of retaining others on a level with themselves, either of ignorance or indifference.

"With all our boasted achievements it can scarcely with justice be affirmed, that the superstructure we have raised are more beautifully or more securely and symmetrically arranged than that of Galen or that we have in truth, a system of Physiology that is more settled or superior to his." What is true of Galen and Hippocrates is equally true of Charaka and Sushruta.

Col. Ganpat Rai, I. M. S., has stated as follows : "Young men trained in the Western system should use their knowledge to unravel the mysteries of the Indigenous system and unearth its hidden treasures. I am not ashamed to state that on many an occasion, I have succeeded with the Indigenous system where Allopathy failed (Andhra Medical Journal, February 1924).

There is no doubt that the interpretation of many an obscure passage in Ayurveda can be possible on the present day medical knowledge of the West.

Sir Nilratan Sarkar, M.A., M.D., the leading Allopath of Calcutta and a former Vice-Chancellor of the Calcutta University stated that "students and teachers of western medicine generally speaking ignore them (the vaids). This should not be their right attitude.

"It is necessary that the truths contained in them (the Indigenous systems) should be studied. Any further neglect in this

matter would be harmful not only to the indigenous system, but to the interest of our profession." (Presidential address of the All-India Medical Congress, Delhi, December 1918).

"There can be but one system of medicine," says Captain Srinivasamurti, the Principal of the recently opened official Ayurvedic School in Madras, "of which the many existing systems are the parts; each part should be looked on as a special School of thought rather than an independent system of medicine." (Report of the Madras Committee on Indigenous Medical System.)

Lastly we have the most recent pronouncement on Ayurved from the Editorial of the only Official Medical Journal of India (I. M. Gazette, November 1924)

"It (Ayurveda) admittedly has tremendous defects; its anatomy and physiology are crude; its practice of midwifery and surgery it has long ago forgotten; it has no pharmacology as was the case with Western medicine a few decades ago. Yet its merits are greater than its demerits; it and not western medicine, is the medicine of the people; it has age-long traditions; it is deep-rooted in the customs and habits of the people; its dietetics are based on Indian dietary and meet Indian requirements as to caste, creed and constitution... practitioners of western medicine ignorantly believing that there is no body of truth with which that (western) system does not deal, ignores it. He would do better to study it and take from it what is good." Comment is unnecessary.

(IV)

We now come to the most important claim of Ayurveda, viz., internal evidence. It will not be possible to exhaust all these in the present article;—we will here point out some of them and we have not the least doubt that any impartial writer will find a good number of medical truths by an "honest study" of Ayurveda—truths which are recently known or even unknown in modern scientific medicine.

HINDU CHEMISTRY—MEDICAL.

"The finest preparations of metals found in Ayurveda prepared in a form assimilable by the human system is a triumph of Ayurvedic chemistry" (Mahamahopadhyaya Gananath Sen, M.A. L.M.S.)

We may take for example Sahasraput Louha (Iron burnt a thousand times) is so light that it floats in water and is non-magnetic. It does not produce constipation and is freely used by Kavirajes even when the Liver is congested. No Allopathic inorganic preparations of Iron can beat it.

Objection had been raised in certain quarters about the round-about way of preparing Ayurvedic drugs. Chemically it consists of a mixture of Ferroso-Ferric oxide—chemically it is different from the above mixture.

Those who understand the principles of preparing Homœopathic forms of drugs will never question this method of Ayurveda. The potency of the Homœopathic form of a drug is increased by "dilution and trituration", in other words by manipulation. The clinical value of Iron is increased (potentized) by another form of manipulation.

We can not deny the effects of homœopathic forms of drugs clinically. Recently it has been shown that these produce specific antibodies (Kolmer-Infection and Immunity).

"Sahasraput" Iron is an example of the preparation of the drug according to Homœopathic principle in Ayurveda.

Let us take another example, viz., Makaradhwaj which is chemically sulphide of mercury, but clinically vastly superior to it. It never produces salivation.

Modern Chemistry fails to explain why Makaradhwaj is clinically superior to sulphide of mercury, just as it fails to explain "why Natural Salycilate is more effective than the synthetical preparation, why Beechwood creosote is more valuable than the corresponding coal-tar preparation, why natural mineral waters are vastly superior to their exact chemical equivalent." (Mahamohopadhyaya Gananath)

"Modern Chemistry can not explain", remarked the late Dr. Hem Chandra Sen M.D., "the difference in formation of cells having exactly the same chemical composition."

"Who does not know", said the late Dr. Hem Chandra, "that substances having the same chemical composition differ widely in functions. Alcohol from wheat, rice or grapes have the same composition but different properties. Diamond and Carbon do not differ in chemical composition but in properties". He

concluded that the analysis of ancient prescriptions and modes of treatment will more than repay investigation by the scientific world.

Incidentally it may be remarked that the crude chemistry of Ayurveda has prepared several drugs of different properties from the same ingredient as used in modern medicine. Thus Makaradwaja (a mercurial) does not produce salivation.

According to Mahamahopadhyaya Gananath the Ayurvedic form of aconite is a stimulant and not a depressant as in Allopathy. Here we find another illustration of the application of Homoeopathic principle in the preparation of an Ayurvedic drug. The Homoeopathic form of aconite, be it noted, is not a depressant.

No one can deny that the old Hindu Chemical methods are susceptible of improvement. Apply modern chemical methods in preparing drugs of Ayurveda and try these chemically and if found equally efficacious, chuck out the old round about method of such preparation. But before doing this, don't pronounce the old chemical methods of Ayurveda as worthless and which should therefore be replaced wholesale. Scientific mind does not take anything as granted.

"Modern Chemistry can not explain", remarked the late Dr. Hem Chandra Sen M.D. "the difference in formation of cells having exactly the same clinical composition."

"Who does not know", said the late Dr. Hem Chandra, "that substances having the same clinical composition differ widely in functions. Alcohol from wheat, rice and grapes have the same composition but different properties. Diamond and carbon do not differ in clinical composition but in properties". He concluded that analysis of ancient prescriptions and modes of treatment will more than repay investigation by the scientific world.

(To be continued.)

CORRESPONDENCE.

To THE MANAGING EDITOR,

THE JOURNAL OF AYURVEDA.

CALCUTTA.

ORIENTAL MEDICAL SCIENCE
POLICY OF STUDY AND PRACTICE.

Government of Ceylon.

At yesterday's meeting of the Legislative council (1-10-1925) in reply to the question of Honorable Mr. S. Rajaretnum (Member of the Municipal Committee of the Lanka Ayurvedic Medical College, Jaffna) to make a declaration as to the Government of Ceylon's policy regarding Study and Practice of Oriental Medical Science, The Hon'ble the Director of Medical and Sanitary Services in Ceylon

REPLIED.

1. The Science and Art of Modern Medicine are not circumscribed by bounds of race, nationality or territorial limitations ; its aim is the discovery of truth ; its triumphs have been gained by men and women of all races ; the knowledge which its followers acquire and the secrets which they wrest from nature are broadcast to the whole world for the benefit of suffering humanity.
2. The expenditure by Government on its Medical Department exceeds at the present time Rs. 8,000,000 per annum.
3. On the 31st December 1924 there were in existence in the colony 98 Government Hospitals, 533 Government Dispensaries. There were employed by Government 257 medical men, exclusive of those belonging to the Sanitary branch, and 365 Apothecaries. During the years 1924, 171,884 cases of disease were treated as In-patients at Government Hospitals, and 2,497,122 persons were treated as out patients at Government Dispensaries. These figures do not include the number of private Medical Practitioners registered under the Medical Act, who are not in Government employment ; the number of Dispensaries employed by Estates : the number of persons treated as In-patients or out patients in Estates' Hospitals or Estates' Dispensaries or in other Non-government Institutions ; the number of persons treated by Non-government private practitioners ; or the number of persons treated as private patients by Government Medical Officers. It is obvious therefore that a computation estimating the number of those who seek medical aid to be about three quarters of the four and half million population of Ceylon does not err on the side of exaggeration.

4. The demands on Government by members of the Legislature and other persons interested in the welfare of the people are numerous and insistent for increased provision of Hospitals, dispensaries and Medical staff.

5. Considerable expenditure is also necessary to bring Government Institutions such as the General Hospital, the Bacteriological Institute, the Medical College, the dying-in-Home in line with the requirements demanded by modern advances in medical knowledge.

6. Further, large sums of money are necessary to provide for measures for the prevention of malaria and other diseases which are preventable, but which at present are seriously damaging the health and economic welfare of the whole community, and the necessity for such expenditure is fully recognized by Government.

7. In view of these facts Government is of opinion that the *health interests of Ceylon are best served by development along the lines of Modern Science* rather than by the encouragement of a "System of Medicine, to which (*however venerable its antiquity and however notable the attainments of some of its individual practitioners*) Anaesthesia, X-Ray Therapy, Radium Therapy, Immunization and other curative methods are *unknown* and which does not offer patients the benefits of present day surgical technique and of Preventive Medicine".

"Extract from Ceylon Morning Leader October 2 (Friday) 1925."

Having given the pronouncement of the Government of Ceylon anent its declared policy, study and practice of "Oriental Medical Science" for what it may be worth I shall try to refute the implications therein seriatively

I. This is "reductio absurdum" of the adjective "Oriental" qualifying the term "Medical Science" thereby making an implication that Ayurveda or Hindu Medicine is parochial and narrow being circumscribed by bounds of race, nationality or territorial limitations. This is a perverted reading of the world wide humanitarian aspect of the Science of Ayurveda, which is not any Pathy or School of Medical Practice but includes in its toils Veterinary and Bovine Treatment as well as "Vriksha-Ayurveda" containing a Regular Symptomatology and Treatment of Plant Diseases as well. A Science that knew plants as "Sthavara Jeeva" or Stationary Animals conscious of pleasure and pain anticipating thereby proof of this feature of plant-life by actual experiments by Sir Jagadish Chandra Bose F. R. S cannot be calumniated as bound by race. As for the count of its circumscriptio by nationality the fact of its being the parent of all the medical systems of the world, extant to-day, can very well answer it.

in the words of Dr. Royle F.R.S.—“The first system of Medicine was borrowed from the Hindus.” Territorial limitations do not sit tightly on a system that has carried its benignant mission on distant lands and climes thousands of years ago and remains yet to-day in its resplendent glory as the very “Plinth and Foundation” of all the Schools of Medical Practice that rear their head to-day in green foliage drawing its very sap from the hoary stock of Ayurveda. Ayurveda has ever been based on “Truth” and has postulated for all time its grand Tridosha Theory which requires to be proved by actual experiments as the “Sthavara Jeeva Theory of Ayurvedic Vrikhsas has been proved by Sir J. C. Bose F.R.S., “Truth after all is the monopoly neither of the East nor of the West and we are all humble seekers of truth.”

Ayurveda has been on its triumphant march for thousands of years accumulating its stores of knowledge from heterogenous races and has broadcasted to the whole world the secrets which its votaries have wrested from Nature for the benefit of not only the suffering humanity but also the inarticulate animals and what hitherto was believed to be by the West, lifeless plants and inanimate objects.

2. The expenditure of such a good sum as Rs. 8,000,000 annually by the Government on its Medical department leaves yet something to be desired by way of supplement by large sums of money to bring the various Medical Institutions in line with the modern requirements. But a little of this expenditure generously granted to the encouragement of medical relief on Ayurvedic lines would grapple with the large problem more effectively than heretofore.

3. There is roughly a hospital for, 50,000 of the population and a dispensary for every 10,000 of the population of the Island of Ceylon. There is for every 20,000 of the population one Government Medical man. As for the Apothecaries they are treated as dispensers and compounders by the Government Medical Act which does not place them on the Medical Register and as such they are out of the question as Medical men.

As such the magic of statistics so dexterously handled to prove that three-fourths of the population is served by the modern medical relief scheme loses half its hypnotic charm when it is computed on a modest scale that the kind of medical aid contemplated on lines of superarrogating modern medical science is at the ratio of one medical man for every 20,000 of the population, of course

margin being made for private registered practitioners who can only be in evidence in big cities, the figure comes to One medical man for every 15,000 of the population. This can never be considered adequate and the only way by which the medical relief can be extended to the masses is by the spread of cheap and efficient Ayurvedic treatment on the lines adopted by the Government of Madras in their Department of Local Self-government..

4. Of course it cannot be otherwise when the Government has accepted the full responsibility for transplanting the Western system of Allopathy in this land thereby supplanting the indigenous system, inderictly though.

5. This cry for money and yet more money for improving Western medical institutions in the land, is a consequence of the above commitment and a heavy drag on this impoverished land. "Greatest good to the greatest number" is the modern rule of public finance and only Ayurveda can fulfil this economic and utilitarian expectation.

6. It is common knowledge that a lay Malariaologist has been draining off the resources of the preventive department of Medicine after a good deal of investigation and cogitation close on four years. He has been asking for a fresh lease of his tenure and no wonder that under such expensive health manœuvres of preliminary investigation money, more money, and yet more money is needed.

7. This brings me to the summation of all the above and the declaration of the Government of Ceylon which opines that the health interests of Ceylon are best served by development along the lines of modern science.

Comparisons are odious and since the Director General chooses to wind up his peroration with this Odious stuff we cannot but feel it sticking in our nostrils. Hence we naturally endeavour to sneeze it out.

Venerable antiquity and notable attainments of some Ayurvedic practitioners are given their meed only to cover them and their system with sarcasm of the subtle variety in the next breath.

Nescience clauses :—

Anæsthesia. Prior to the discovery of Anæsthesia by Sir James Y. Simpson in 1847 was Western Medicine held as any the less scientific for it and deemed unworthy of State Aid ? Then why taunt Indigenous systems which were left neglected

and supplanted by other systems on this score? This modern discovery is as much the property of Ayurvedists as of the Allopaths.

X-Rays and Radium Therapy were unknown until so recently as a score of years ago. Prof. Routgen discovered X-Rays only in December 1905 twenty years ago and was the Allopathic any the less patronised for it by the State before that time?

This Science of Immunology so captiously captioned by Sir A. Wright is a hypothetical branch of medical science, held up to public gaze but yesterday and the want of it cannot cripple an age-long science. Surgical Technique and Preventive medicine were developed on the heels of State patronage and declined with the taking away of it from the Ayurvedic Medicine. What State medicine, or Public Health or sanitary Science could develop in a Science whose very votaries have been held to ridicule and given no quarter in the state!

One word more and I have done. Do the masses get all the glorious advantages of world wide, International Scientific Medicine? How many of the century of Hospitals in the Island can boast of X-Ray and Radiology and Harley Street experts?

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